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ABSTRACT

The Texas Education Agency identified the need to implement an evaluation system of performance standards for selected vocational education programs as required by the Perkins Act. The project developed criteria to assess vocational education in secondary schools in Texas. Two objectives were met during 1990-91: conduct background research on performance standards and delineate model performance standards for programs. A review of the literature, a survey to which 37 states responded, consultation with an advisory committee, and drafting and critique of performance standards and measures were used to accomplish project objectives. Several questions related to project results and accomplishments were addressed: What are the new evaluation requirements in the Perkins Act? What guidance literature meets Perkins requirements? What are other states doing in program evaluation? How should local requirements of the Perkins Act be met? and What procedures ensure accountability for Texas secondary vocational programs? It was concluded that Texas is proceeding toward a useful evaluation system, but the project is substantially behind schedule. Attention to coordination of postsecondary programs with business/industry was recommended. (Eleven tables and seven appendices are included: work plan abstract, 1990-1991; advisory committee; annotated bibliography; summary of advisory committee meetings; core performance standards; and project work plan abstract, 1991-92.) (NLA)

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FINAL REPORT

Research and Development of Performance Standards
for Selected Vocational Education ProgramsCindy Roberts-Gray
Resource NetworkSponsored Cooperatively by
Texas Education Agency

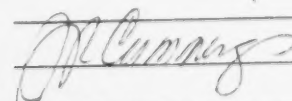
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Section 1. PROBLEM AREA

Begun in July 1990, the project entitled Research and Development of Performance Standards for Selected Vocational Education Programs has entered its second year. This document is the final report for contract year 1990-1991, which ended June 30, 1991. In order to provide all the information necessary for a clear and comprehensive picture of project activities and to make it easy for teachers, administrators, and other readers to use the information presented, the report has been prepared in a "chart essay" format. This format was developed in the Dallas Independent School District and is endorsed as an effective method for communicating research information to policymakers, administrators, and teachers. Each page in the chart essay format begins with a question. The question then is followed with a two-part answer: (1) a chart or table summarizes relevant data, and (2) a brief essay summarizes or expands upon information contained in the chart.

Question 1.1

What is the problem area toward which this project was directed?

Table 1.1: THE PROBLEM AREA

-
- * The Carl D. Perkins Vocational and Applied Technology Education Act of 1990 requires all states to develop performance standards for vocational education programs.
 - * Foreseeing that the Act would demand more thorough evaluation of program performance than ever before, the Texas Education Agency identified the need for substantial research and development work to enable timely implementation of an effective evaluation system.
-

The Carl D. Perkins Vocational and Applied Technology Education Act (P.L. 101-392) of 1990 requires all states to develop performance standards for their federally funded vocational education programs. A system for using the standards to evaluate effectiveness of programs conducted with assistance provided under the Perkins Act must be implemented by July 1992. In July 1990, the Texas Education Agency (TEA) requested that this project be conducted to accomplish the substantial research and development tasks that necessarily precede implementation of such a system. The project will conclude when the newly mandated evaluation system is implemented in July 1992.

Section 2. GOALS AND OBJECTIVES

Question 2.1

What were the goals and objectives of this project?

Table 2.1: GOALS AND OBJECTIVES

GOAL:	To research and develop measurable and objective criteria to assess the quality and performance of vocational education in secondary schools in Texas
OBJECTIVES:	During contract year 1990-1991:
1	Conduct background research on performance standards in vocational education.
2	Delineate model performance standards for selected vocational programs.

In order to meet the challenge of designing and implementing by July 1992 an evaluation system that will enable school districts in Texas to document the progress of secondary school students participating in vocational education programs, TEA authorized a research and development contract award to the Extension Instruction and Materials Center (EIMC) at the University of Texas at Austin.

Two objectives were identified in the work plan for the first year of this two-year project: (1) to conduct background research on performance standards in vocational education and (2) to delineate model performance standards for vocational education programs. By accomplishing these two objectives during project year 1990-1991, a firm foundation is laid for conducting an empirical feasibility assessment during contract year 1991-1992 so that appropriate plans can be made to support timely implementation of the evaluation system. A copy of the abstract of the work plan for contract year 1990-91 is in Appendix A.

Section 3. PROJECT DESIGN AND PROCEDURES

Question 3.1

What research and development questions were addressed during contract year 1990-91?

Table 3.1: RESEARCH and DEVELOPMENT QUESTIONS

-
1. What are the new evaluation requirements specified in the Perkins Act of 1990?
 2. What guidance is available in the literature to facilitate development and implementation of an appropriate system of performance standards and evaluation procedures to meet these requirements?
 3. What are other states doing to evaluate their vocational education programs in secondary school systems?
 4. What do local experts advise should be done to meet the evaluation requirements of the Perkins Act?
 5. What set of performance standards, measures, and evaluation procedures are appropriate and plausible candidates to meet requirements of the Perkins Act and assure accountability and quality for vocational education programs in secondary schools in Texas?
-

A sequence of research and development questions, beginning with analysis of requirements and ending with delineation of model performance standards, was addressed during contract year 1990-91. Answers to these five questions are presented in section 4 of this report, "Results and Accomplishments of the Project."

Question 3.2

What procedures were used to answer the sequence of research and development questions addressed during contract year 1990-91?

Table 3.2: PROCEDURES USED TO ACCOMPLISH PROJECT OBJECTIVES

OBJECTIVE:	PROCEDURES:
1 Conduct background research on performance standards in vocational education	* Review of literature * Mailed survey of education agencies in other states * Interviews and consultation with local experts
2 Delineate model performance standards for selected vocational programs	* Consultation with specially convened advisory committees * Drafting and critique of performance standards and measures for selected vocational education programs

Conducting a literature review and recruiting and beginning to consult with a general advisory committee of experts and professionals in the fields of vocational education, educational administration, business and industry, and program evaluation were first tasks of the project team. The advisory committee was comprised of three representatives from business and industry, three representatives from postsecondary schools, three representatives from school districts, a representative from the Texas Council on Vocational Education, and the ten vocational education program directors at TEA. A copy of the membership roster is included in Appendix B. Key project personnel were Kathryn Allen, Margaret Kaluzny, Barbara Selke-Kern, and Joe C. Williams of UT's EIMC and Richard Bouton of RAB Consulting. Ms. Kaluzny played a major role in review of the literature and survey of education agencies in other states. Mr. Bouton was a leader in recruiting and organizing both the general advisory committee and sets of smaller, course-specific advisory groups. He also took the lead, with guidance from the advisory committee and from project personnel at EIMC, in drafting core performance standards and measures.

Section 4. RESULTS AND ACCOMPLISHMENTS OF THE PROJECT

Question 4.1

What are the new evaluation requirements specified in the Perkins Act?

Table 4.1: REQUIREMENTS

The statewide system of core standards and measures of performance must include:

- 1 Measures of academic learning and competency gains;
 - 2 One or more measures of performance, which shall include only:
 - a. competency attainment;
 - b. job or work skill attainment or enhancement;
 - c. placement into additional training, education, military service, or employment;
 - 3 Incentives and adjustments to:
 - a. encourage service to targeted groups or special populations;
 - b. be consistent with the student's individualized education program under the Education of the Handicapped Act; and
 - 4 Procedures for using existing resources and methods developed in other programs receiving Federal assistance.
-

The Perkins Act of 1990 challenges states and communities to address the performance of secondary and postsecondary students in vocational education more thoroughly than ever before. Section 115 of the Act requires development and implementation of a statewide system of core standards and measures of performance. It further specifies that the system must be implemented within two years of the Act (i.e., by July 1992). It is very specific about the domains that must be addressed—that is, learning, labor market, and program accessibility. The Act also demands that development of the standards include consideration of standards and measures already approved by the Secretary of Health and Human Services under section 402(a)(19) of the Social Security Act and standards prescribed by the Secretary of Labor under section 106 of the Job Training Partnership Act.

Section 117 of the Act describes expected use of core standards. Each recipient of financial assistance under part C of title II must use the standards and measures as a basis for annually evaluating the effectiveness of programs conducted with Perkins funds. The Act allows that local school districts "may make modifications to the system based on economic, geographic, demographic factors, or characteristics of the population to be served."

Question 4.2

What guidance is available in the literature to facilitate development and implementation of an appropriate system of performance standards and evaluation procedures to meet the requirements of the Perkins Act?

Table 4.2: KEY REFERENCE MATERIALS

American Vocational Association. *The AVA Guide to the Carl D. Perkins Vocational and Applied Technology Education Act of 1990*. Alexandria, Va.: American Vocational Association, Inc., 1990.

Hoachlander, E. Gareth. *Systems of Performance Standards and Accountability for Vocational Education: Guidelines for Development*. Berkeley, Calif.: National Center for Research in Vocational Education, University of California, Berkeley, 1991.

During the first phase of this project, library research was conducted to locate information and guidance regarding performance standards and assessment procedures for vocational education programs and for programs serving special needs populations. From this review, project staff determined that Hoachlander's (1990; 1991a; 1991b) guidelines for development were especially suitable as a framework for developing an evaluation system for vocational education programs in secondary schools in Texas.

Several of Hoachlander's papers are listed in the annotated bibliography compiled for this project. The bibliography lists resource materials in alphabetical order to provide information about the following topics: performance standards for vocational education and technical training programs; measurement and evaluation theory and methods; federal and state analyses and recommendations regarding vocational education programs; labor demand analyses and recommendations for education and training; and strategies and recommendations for using evaluation results to improve programs and policies. A copy of the annotated bibliography is in Appendix C.

Question 4.3

What are other states doing to evaluate their vocational education programs in secondary school systems?

Table 4.3: SUMMARY OF RESULTS OF SURVEY OF OTHER STATES

Number of States Reporting Status of Their System for Evaluation	
Have a satisfactory system	1
Are revising current system	7
Are developing a system	20
Intend to develop a system	4
Are not yet changing their system	5

Thirty-seven states responded to letters mailed in January 1991 requesting information about the status of their system for evaluating vocational education programs. Only one of those 37 sent information indicating that it had completed development of performance standards in response to the Perkins Act. The vast majority (i.e., 27/37) of the states indicated that they were in the process of developing a system to meet the new requirements either by revising or adding to their current system or by starting from scratch to develop an appropriate set of standards and measures. A few states reported that they soon would begin work required to develop their evaluation system, and several sent copies of standards they are currently using and indicated no expectation or intention to make adjustments. A more detailed summary of results of the mailed survey is included in Appendix D.

Although none of the systems that were described by other states could be readily co-opted to meet needs for evaluating the effectiveness of vocational education programs in Texas, the materials and information supplied by other states were very useful in helping project staff to make decisions about the numbers and kinds of standards that should be developed.

Question 4.4

What do local experts advise should be done to meet requirements of the Perkins Act?

Table 4.4: KEY ELEMENTS OF GUIDANCE FROM THE ADVISORY COMMITTEE

- * The focus should be on student outcomes rather than on instructional process—goals should drive the standards, and the standards should drive the process.
- * Needs of special populations should be accommodated in the standards—except for BVE and IVE, there should not be separate standards for special needs populations.
- * Standards should be more strongly guided by business and industry than by input from teachers and school district personnel—employers should determine standards, and educators should refine and implement programs to achieve the standards.
- * Two tiers of standards should be developed:
 - 1 "Core" standards should be developed to address performance issues relevant across programs.
 - 2 "Course-specific" standards should be developed to supplement the core as appropriate.

The General Advisory Committee was convened twice during contract year 1990-91: September 1990 and February 1991. Discussion at these meetings addressed (1) the desirability of including on the committee a representative from the agency that is developing standards for postsecondary vocational education programs; (2) guidelines for research and development of standards for secondary vocational education programs; and (3) timelines for organizing and consulting with small advisory groups for specific programs. Key elements of advice emerging from the first meeting were that standards should focus on student outcomes and that the standards should accommodate special needs populations. Specific guidance generated in the second meeting was an emphasis on having standards set by industry and a decision to develop two tiers of standards—the first tier being composed of "core" standards applicable across programs and the second tier addressing performance issues that are program- or course-specific. Copies of the agenda and summary for each of these two meetings of the General Advisory Committee are in Appendix E.

Question 4.5

What set of performance standards, measures, and evaluation procedures are appropriate and plausible candidates to meet requirements of the Perkins Act and ensure accountability and quality for vocational education programs in secondary schools in Texas?

Table 4.5: CORE PERFORMANCE STANDARDS (DRAFT)

- 1 At the end of 12th grade, students who completed at least 5 credits of a coherent sequence of vocational education courses that included, where applicable, at least one occupationally specific course, passed TAAS at rates that were comparable to or better than those attained during the previous year unless or until a level of 90 percent is attained.
- 2 At least 80 percent of students who this year were enrolled in two semesters of a coherent sequence of vocational education courses obtained at least 5.5 state-approved elective and/or required units of credit toward their graduation during the year.
- 3 At least 80 percent of students who enrolled in an occupationally specific vocational education course completed their vocational education program by the end of 12th grade. Program completion is defined as successful completion of a coherent sequence of courses for the specific vocational program or a demonstration of competency in the vocation.
- 4 At least 80 percent of 12th grade students who had completed at least 5 credits of a coherent sequence of vocational education courses that included, where applicable, at least one occupationally specific course: (a) obtained a certification of competency by an accepted licensing or certification agency; OR (b) successfully completed a validated test of occupational competency; OR (c) demonstrated completion and competency in the essential elements for the student's coherent vocational education course sequence.
- 5 The retention rate for students who this year were enrolled in two semesters of a coherent sequence of vocational education courses was comparable to or better than the retention rate for the district.
- 6 Among 12th grade students who had completed at least 5 credits of a coherent sequence of vocational education courses that included, where applicable, at least one occupationally specific course, the percentage who obtained high school diplomas was comparable to or better than the percentage of all 12th grade students in the district who obtained their high school diplomas.
- 7 At the one-year follow-up, 75 percent of students who earned a high school diploma after having completed at least 5 credits of a coherent sequence of vocational education courses that included, where applicable, at least one occupationally specific course were: (a) enrolled at a postsecondary educational institution; OR (b) enrolled in a registered apprenticeship program; OR (c) in other training related to their vocational training; OR (d) in military service; OR (e) employed in a paid or unpaid job related to their vocational training.
- 8 Members of special populations who received special or supplemental services because they were enrolled in vocational education courses this year earned at least 5.5 credits toward their graduation and/or obtained high school diplomas at rates that were greater than rates achieved by comparable groups of students who were not enrolled in vocational education courses and therefore not receiving special or supplemental services.
- 9 Of students who are members of special populations, the percentages enrolled in vocational education courses were comparable to the percentages of those groups of students within the school district.
- 10 Adjustments may be made in standards 1 through 7 for students with an Individualized Education Plan (IEP) who are enrolled in vocational education courses.
- 11 In addition to use of existing resources as specified in the district's application for Perkins funds and supplemental services for members of special populations, the district shall obtain and review the regional (or statewide) occupational outlook compiled as part of the quality workforce program in the state of Texas and make arrangements to ensure that the occupationally specific courses being offered provide training relevant to prevailing occupational choices.

These standards address all four categories of requirements specified in Section 115 of the Perkins Act. A copy of the standards with illustrative examples is in Appendix F.

Section 5. EVALUATION PROCEDURES AND FINDINGS

Question 5

How was project performance evaluated, and what were the findings?

Table 5: PROJECT EVALUATION

Evaluation Questions

- 1 Did the project achieve objectives specified for contract year 1990-91?
- 2 What problems were encountered, and what changes, if any, were made in the work plan?

Evaluation Procedures

- * Quarterly reports were submitted to TEA, and regular meetings were conducted with program directors at TEA.
- * As this final report was prepared, project activities and accomplishments were compared against specifications in the work plan.

Evaluation Findings

- * Significant achievements were: (1) completion of library review and production of annotated bibliography; (2) completion of survey of others states and production of summary data tables; (3) convening of advisory committees; and (4) drafting of performance standards.
- * Changes made in the work plan included: (1) deciding against soliciting input from vocational education teachers and administrators; (2) deciding to develop two tiers of standards rather than developing standards for a selection of specific courses as originally envisioned; and (3) falling short of the goal of completing the draft of standards and procedures before the close of contract year 1990-91.

The project succeeded in reaching many of the benchmarks for both of the contract year 1990-91 objectives. Some changes in the work plan were based on advice of the advisory committee or on results of the background research (e.g., deciding to develop two tiers of standards). Timeliness in drafting the standards was, however, a major problem. Drafting of the standards listed in Table 4.5 was not completed until November 1991.

Section 6. CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS FOR THE FUTURE

Question 6

What are the next steps toward achieving the goal of developing measurable and objective criteria to assess the quality and performance of vocational education in secondary schools in Texas?

Table 6: CONCLUSIONS and RECOMMENDATIONS

Conclusions

- * Texas is proceeding at least as quickly and as thoroughly as other states toward implementation of a useful evaluation system to meet the requirements of the Perkins Act of 1990.
- * Timeliness, however, is of critical concern—the system must be ready to implement by July 1992, and the project was, in September 1991, substantially behind schedule.
- * Additional areas of concern are: (1) the extent to which the standards that have been drafted will be accepted and easily integrated into operations in school districts; (2) how performance standards specified for vocational education programs in secondary schools will link to those being developed for postsecondary programs; and (3) the extent to which business and industry have been involved in setting the standards.

Recommendations

- * Standards listed in Table 4.5 should be evaluated in an empirical feasibility assessment in a sample of school districts. This assessment is part of the work plan for contract year 1991-92.
- * Adjustments should be made in project staffing and procedures to ensure timely completion of objectives for contract year 1990-91. Changes were, in fact, initiated in October 1992 to facilitate project operations.
- * Attention should be given to the issues of coordination with postsecondary programs and with business and industry. These issues can be accommodated as part of development of course-specific objectives planned for the spring of 1992.

A copy of the abstract of the work plan for contract year 1990-91 is included in Appendix G.

Appendix A

Abstract of Work Plan for Contract Year 1990-1991

PROJECT DESCRIPTION ABSTRACT 1990-91

Objectives

The overall objective of this project will be to research and develop *measurable and objective criteria* to assess the quality of and performance standards for a minimum of 20 approved vocational courses. From these criteria, a modular program evaluation system will be developed, which will be expandable for other vocational courses, so that vocational courses and programs can be objectively evaluated on the local, regional, or statewide level. The system will be based on assessment criteria researched and developed for this project. At least one course from each program area will be selected for inclusion in the 20 or more courses. A uniform metric for all of the modules in the evaluation system will be developed, to ensure that different courses and programs could be readily compared and to ensure that the system will be readily expandable.

Procedures

Recruit and meet with a general advisory committee. Establish a management plan for the project. Select the 20 vocational courses for which specific assessment criteria will be developed. Conduct a complete library review of performance standards previously developed for vocational education. Contact successful vocational education programs in other states and examine their performance standards. Conduct a survey of the views of vocational teachers and administrators to obtain their input. Recruit and meet with the specific advisory groups for each of the courses and vocational areas. Draft the assessment criteria, performance standards, and evaluation system. Evaluate these criteria and standards. Produce the final product after revision. Submit to TEA the camera-ready evaluation system, including instructions and suggestions, and the final report.

Product(s) to Be Delivered

The final product of this project will be the modular evaluation system based on the assessment criteria and performance standards researched and developed during the project. The system will be divided into several modular components. One module will include criteria which are common to all vocational programs; a second module will include criteria unique to a vocational program area; a third module will include criteria unique to each of the 20 chosen vocational courses; a fourth module will include criteria based on the needs of special populations and regional employment conditions. The system will include instructions for the use of the entire system and a description of appropriate statistical analyses. The system will include suggestions for the computerized implementation of scoring and for establishing a database of the data which can be obtained from the system. The final product will include a summary of the performance standards obtained from the library review and successful vocational programs in other states.

Quality Control of Product(s)

Regular and frequent formative evaluations will be conducted during development of the assessment criteria. Advisory and validation committees will be composed of individuals with appropriate experience and expertise. Regular and frequent meetings with advisory committees will provide ample opportunity for input, criticism, and evaluation of the performance standards as the complete evaluation system is developed. This regular input will also improve the acceptance of the final product by teachers and administrators. During the last quarter of the project an evaluation instrument will be developed, so committee members and randomly selected vocational administrators and teachers can evaluate the results of this project. Regular and comprehensive in-house evaluations will take place, within the organizational structure and using the expertise of EIMC. Frequent contact with the appropriate TEA project director will ensure that products developed as a part of this project will be consistent with the requirements of the contract and will provide the TEA with the information that it needs to better serve the students of Texas.

Appendix B

Membership of Advisory Committee

**Members of the 1990-91 General Advisory Committee for
Research and Development of Performance Standards
for Selected Vocational Education Programs in Texas**

Representatives from Private Industry

Bill Demistihis, Austin/Travis County Private Industry Council
Mike Garcia, Texas Hospital Association
Sam Zigrossi, IBM

Representatives from Postsecondary Schools

Linda Parrish, Texas A&M University
Barbara Selke-Kern, University of Texas at Austin
Jerry Wircenski, University of North Texas

Representatives from School Districts

Leonard Harcrow, Mt. Pleasant
Sandra Marvel, Wichita Falls
William Spencer, Houston

Representative from the Texas Council on Vocational Education

Will Reese, Texas Council on Vocational Education

Representatives from the Texas Education Agency

Neil Ballard, Industrial Technology
Sylvia Clark, Vocational Counseling and Guidance
James Cogdell, Trade and Industry
Jay Eudy, Agriculture
Robert Gordon, Office Education
Judith Hetherly, Home Economics
Eleanor Mikulin, Vocational Special Needs
Bob Patterson, Vocational Education Programs
Berry Sullivan, Marketing Education
Barbara Terrell, Health Occupations

Appendix C

Annotated Bibliography

Annotated Bibliography

Abramson, Theodore; Tittle, Carol Kehr; and Cohen, Lee. *Handbook of Vocational Education*. Beverly Hills, Calif.: Sage Publications, 1979. 619 pp.

There is a need for accountability and evaluation of social and educational programs. The authors' purpose for writing this book is to address evaluation issues in the context of current vocational education programs and practices. The volume is divided into five parts which describe vocational education and its evaluation in terms of history and goals, evaluation designs and approaches, use of evaluation concepts in program development, measurement and testing issues, and political context and evaluation roles:

- Part One, "Vocational Education: History and Goal Setting," describes the development and growth of vocational education from the early apprentice system to today, and the role of the federal government in this progression.
- Part Two, "Evaluation Approaches and Special Design Issues," explicates some of the major issues in designing and implementing evaluation studies to provide data that can be usefully, meaningfully, and validly interpreted for program modification or termination.
- Part Three, "Program Development and Evaluation Concepts: Linkages in Vocational Education," discusses methods of carrying out job and task analyses, and the use of behavioral objectives and performance ratings in the development and evaluation of vocational training programs.
- Part Four, "Evaluation Measures and Testing Issues," includes discussions of general approaches to attitude measurement, and the definitions and uses of job satisfaction measures in evaluating vocational education programs.
- The last part of the volume, "Politics and the Evaluator's Role: The Real World of Evaluation," contains a reprint of Carol H. Weiss's seminal paper (presented at the annual meeting of the American Psychological Association, August 30, 1973), on the political context in which the evaluation research process is embedded.

Aho, Michael C. "The Experience of Other Countries: Reactor Comments." In *Responsiveness of Training Institutions to Changing Labor Market Demands*, edited by Robert E. Taylor, Howard Rosen, and Frank C. Pratzner. Columbus: National Center for Research in Vocational Education, Ohio State University, 1983.

Aho in this chapter responds to Reubens' discussion, in a previous chapter of this publication, of labor shortages in the United States. Rather than focus on labor shortages, Aho believes that the emphasis should be on labor market inconsistencies. He believes that, "in the current environment of slow growth and increasing competition in our traditionally labor intensive industries, it is vital that labor markets function as flexibly and efficiently as possible. Failure to adjust to these labor market changes will cause prolonged unemployment and social strain, as well as reduce the prospects for growth over the long term." He believes that the

proposals for enhancing the role of high schools and vocational schools will help increase the supply of skilled workers, but the vocational schools should include adult learner to help the older, veteran workers. He concurs with Dr. Reubens that foreign experiences could serve as a valuable source of information and broaden our outlook.

Apling, Richard N. *Vocational Education Performance Standards*. CRS Report for Congress. ERIC #ED 309 320. Washington, D.C.: Library of Congress, Congressional Research Service, July 6, 1989.

This report discusses three proposals that would establish standards of performance for vocational education and analyzes experiences from performance standards implemented as part of other social and educational programs, such as the Job Training Partnership Act, Chapter 1, minimum competency testing, and merit pay for teachers.

Another section provides the states' records on adopting performance standards and gives details of the approaches taken by Missouri and Florida. Potential problems from performance standards are discussed, based on experience with setting performance standards in other social programs. These include:

- the impact of performance on whom the program serves with the danger that individuals most needing services will be the least likely to be served;
- the influence of performance standards on the type of training provided with a danger that effective but long-term and expensive services will be discouraged in favor of short-term and inexpensive approaches;
- the difficulty in meeting multiple standards, some of which may not be mutually compatible;
- the problem of adjusting standards for programs in different labor markets or serving different types of clients; and
- the difficulty of setting minimum standards.

Asher, J. J., and Sciarrino, J. A. "Realistic Work Sample Tests: A Review." *Personnel Psychology* 27, 1974: 519-533.

The article discusses point-to-point theory examining the connections between the predictor and the criterion. The more features in common between the predictor and the criterion space, the higher the validity. Realistic work sample tests were classified as either motor or verbal. The authors studied the relationship between the complex work sample tests that were miniature replicas of specific criterion behavior and the criterion itself. The results are as follows:

1. When job proficiency was the criterion, realistic motor work sample tests had the highest validity coefficients second only to biographical information. Verbal work sample tests were not as high as the motor, but they were in the top half of the predictors.
2. When the criterion was success in training, verbal work sample tests were more powerful in predicting success in training than in forecasting job proficiency. Verbal work sample tests had substantially more significant validity coefficients than the motor when there was a training criterion.

Axelrod Valija M., and Magisos, Joel H. "Performance Based Standards and Measures." Presentation at the U.S. Department of Education Office of Vocational and Adult Education, Washington D.C., 24 August 1990.

This report presents overall guidelines for evaluating secondary vocational education programs for special populations. Ten policy recommendations for improving the evaluation process were identified, based on a review of evaluation literature, input from experienced evaluators, and the characteristics of effective secondary vocational education programs for special populations. The concerns are stakeholder involvement, context analysis, problem delineation, multiple goals, evaluation focus, process and product evaluations, multiple methods of evaluation, evaluation utilization, continuous evaluation, and managing the evaluation. An appendix lists characteristics of effective secondary vocational education programs for special populations.

Commission on the Skills of the American Workforce. *Report: America's Choice: High Skills or Low Wages!* Rochester, N.Y.: National Center on Education and the Economy, June 1990.

The National Center on Education and the Economy, a not-for-profit organization, is involved in policy analysis and development, working at the local, state, and national levels. Advancing computer technology and high-speed communication require reevaluation of the educational and skill levels needed in the United States in order to compete in the global economy. The Commission on the Skills of the American Workforce, operating within the Center, responded to this issue by recently publishing this report, *America's Choice: High Skills or Low Wages!* The report focuses on the skills of the American workforce and the organization of the workplace. The choice America faces is a choice between high skills and low wages. The authors believe that fundamental changes need to be made in the approach to work and education in order to be more productive and competitive. The report identifies five problems and provides a recommendation for each problem. In preparing the report, extensive research included examining education approaches of other countries that have maintained higher rates of productive growth than the United States and have kept their living standards and real wages rising steadily. Germany, Sweden, Denmark, Japan, and Ireland were some of the countries studied. Although the countries are different socially and culturally and their implementation strategies may vary, they share a common goal—maintaining a high-skill, high-wage economy for everyone. The report summarizes the approach taken by these countries.

Congress of the United States, Office of Technology Assessment. *Performance Standards for Secondary School Vocational Education*. Background Paper. ERIC #ED 313 591, April 1989. 94 pp.

This is an important paper examining performance measurement of secondary school vocational programs. The Office of Technology Assessment studied two types of performance measures: labor market indicators and occupational competency testing. Labor market indicators were found to be an important but

insufficient measure of overall school or program performance. Occupational competency tests were found to provide important but insufficient indications of program effectiveness and were not recommended as the sole basis for performance standards.

Employment and Training Administration. *Guide for Setting JTPA Title II-A and Title III (EDWAA) Performance Standards.* Washington, D.C.: Office of Strategic Planning and Policy Development, U.S. Department of Labor, May 1989. The Job Training Partnership Act (JTPA) is designed as a performance-driven program. Performance standards are an important part of the JTPA legislation. Section 106 of JTPA assigns the responsibility for the establishment of national standards to the Secretary of Labor. The application of performance standards, however, rests with the governors. This Technical Assistance Guide consists of eight parts and three appendices. Performance standards are defined. Part A of this document describes how performance standards can be used as key management tools in planning, implementing, managing, assessing, and evaluating the JTPA Program. The remaining sections of the guide discuss the modeling approach in the methodology. This document replaces the previous Technical Assistance Guide for the setting performance standards for Program Year 1988. It provides the adjustment methodology for setting Title II-A and Title III standards for the Program Year July 1989 through June 1990.

Fitz-Gibbon, C.T., and Morris, L.L. *How to Design a Program Evaluation.* Beverly Hills, Calif.: Sage Publications, 1978.

This book is part of a Program Evaluation Kit. The kit contains eight books, each covering a topic commonly confronted by evaluators of educational programs. The kit was developed over a three-year period as a project of the Center for the Study of Evaluation, University of California, Los Angeles. The first chapter is an introduction to evaluation design. The authors define a *design* as a plan that dictates when and from whom measurements will be gathered during the course of an evaluation. The term *model* can be used but the authors prefer the term *design*. Designs reinforce conclusions the evaluator can draw about the impact of a program by helping the evaluator to predict how things might have been had the program not occurred or if some other programs had occurred instead. The remaining chapters discuss the elements of the design and an overview of the design process.

Franchak, Stephen J. "Factors Influencing Vocational Education Program Decisions." In *Responsiveness of Training Institutions to Changing Labor Market Demands*, edited by Robert E. Taylor, Howard Rosen, and Frank C. Pratzner. Columbus: National Center for Research in Vocational Education, Ohio State University, 1983.

The purpose of this study, reported in Chapter 16 by Franchak, was to gather information about what factors influence vocational administrators' decisions to add, terminate, or modify vocational education programs. Implementing program decisions is often complicated by a lack of understanding of the data or their availability and by inadequate knowledge about how the decisions are made. This

study has identified the factors that influence program decisions through a telephone survey of 115 secondary and postsecondary administrators.

Ghiselli, E.E.; Campbell, J. P.; and Zedeck, S. *Measurement Theory for the Behavioral Sciences*. San Francisco: W.H. Freeman and Company, 1981.

Measurement Theory for the Behavioral Sciences is an introductory text of psychological measurement. Although the book does not specifically address performance standards and measures for vocational education, it provides a good basic background in measurement theory. The authors present an introduction to some of the fundamental aspects of measurement and a description of the differences among individuals. They begin the text with a discussion of descriptive statistics. They consider the ways of describing test scores and ways to make scores comparable. Distribution and standardization are ways of describing scores. Another topic addressed is understanding the relationship between two or more characteristics. The concepts of correlation and regression are discussed. They cover the reliability and validity of measurement. Because many tests are composed of a series of items, subtests, or other components, the implications of composite scores are important. The authors address the problem of composite variables and consider ways in which the components forming a composite can be differentially weighted, along with the effects of such weighting. The last two chapters, on scaling and test construction, briefly identify the various concepts and procedures for collecting data and making quantitative assessments.

Guba, Egon G., and Lincoln, Yvonna S. *Effective Evaluation*. San Francisco: Jossey-Bass Publishers, 1981.

This is a classic book discussing evaluation models in general for educational programs. The authors favor a naturalistic, responsive approach, drawing from ethnography, anthropology, and sociology. They provide guidance as to how techniques such as interviewing, observation, analysis of documents and records, and unobtrusive measures may be used in evaluation.

Herman, J.L.; Morris, L.L.; and Fitz-Gibbon, C.T. *Evaluator's Handbook*. Beverly Hills, Calif.: Sage Publications, 1987.

The Evaluator's Handbook is Volume 1 of a Program Evaluation Kit designed by the Center for the Study of Evaluation, University of California, Los Angeles. In the introductory chapter, the authors review the evaluation literature and summarize, in table format, select models from the research. They discuss a conceptual approach to evaluation design. They stress both the formal and informal sources of information in decision making. The book presents a practical approach to developing needs assessment, formative evaluation, summative evaluation, implementation study, and outcome studies.

Hintzen, Neil. "An Approach to Conducting Follow-Up on Vocational Students: Implications for Educational Planning." *Performance and Instruction*, 29(8), September 1990.

The value of using "outcome indicators" to assist vocational planners in program

planning and evaluation was addressed in this paper. Vocational student data were obtained from the Florida Education Training and Placement Information Program (FETPIP). These data included 1986-1987 and 1987-1988 former vocational students from all of Florida's 67 school districts and most of the community colleges. Student records were matched with unemployment insurance files, Project Independence Food Stamps and AFDC data files, mental health institutionalization data files, public university enrollment files, and military enlistment data files. Problems and recommendations are suggested for using large-scale data matches. In the discussion component of the study, Hintzen suggests:

1. The existing mission for secondary vocational students might not necessarily be one leading directly to self-sufficiency. If this is so, it is not surprising that the accompanying consequences do not lead to self-sufficiency.
2. Changes in methods and means for vocational education in the high schools are required, perhaps modeled after postsecondary programs in the vo-tech centers and vocational programs in the community colleges in order to deliver self-sufficient completers.

Hoachlander, E. Gareth. Working Paper MDS-232. *Systems of Performance Standards and Accountability for Vocational Education Guidelines for Development*. Berkeley: National Center for Research in Vocational Education, University of California at Berkeley, January 1991.

Hoachlander provides guidelines for development of performance standards and accountability for vocational education in this working paper. Some very practical questions for designing a performance standard system are asked and answered.

- What are performance measures and standards?
- What types of performance measures and standards should be developed?
- How many measures and standards should be developed?
- Why is it necessary to measure changes over time?
- What constitutes good performance measures and standards?
- What kind of statistical controls need to be incorporated into a system of performance standards and measures?
- What are some specific examples of performance measures and standards for learning in secondary and postsecondary vocational education?
- For whom should information on performance be collected?
- How might states proceed with developing a system of standards and measures?

Hoachlander, E. Gareth. Report MDS-020. *Performance-Based Policy Options for Postsecondary Vocational Education and Employment Training Programs*. Berkeley: National Center for Research in Vocational Education, University of California at Berkeley, September 1989.

This paper explores some of the major issues surrounding the adoption of performance-based policies in postsecondary vocational education and employment training programs. Hoachlander believes that a combination of learning and labor market outcomes are needed to evaluate program effectiveness. He outlines four requirements for developing performance-based standards for each program:

1. It must be possible to define appropriate, multiple measures of performance for vocational education and employment training.
2. Accurate, timely data must be available for these measures at a reasonable cost.
3. Performance on these measures must be tied to funding.
4. Information on the performance of various providers must be available to consumers and policymakers.

In exploring these four requirements, the author addresses the definition of performance for vocational education and employment training. Second, he explores alternatives for tying performance to funding and strategies for information disclosure. Third, he discusses the availability of data on performance and how existing data sources might be improved. Finally, he offers some concluding observations and recommendations.

Hull, William L. *Comprehensive Model for Planning and Evaluating Secondary Vocational Education Programs in Georgia*, Columbus: National Center for Research in Vocational Education, Ohio State University, 1987.

The author presents a comprehensive model for planning and evaluating secondary vocational education programs in Georgia. The four major elements of the model are needs assessment, context review, process components, and product outcomes. They were chosen because they correspond approximately to the variable classes in the outcome index: employment context, educational process, outputs, outcomes, and benefits. Four state planning and evaluation systems—Illinois, North Carolina, Ohio, and Oregon—are described and summarized in Part 2 of the article.

Hursh, Norman C., and Kerns, Allen F. *Vocational Evaluation in Special Education*. Boston: College-Hill Press, a division of Little, Brown, and Company, 1988.

Through the mandates of the Carl Perkins Act of 1984, and emphasized again in the Carl Perkins Act of 1990, vocational evaluation for special education students has become a priority for education administrators. The authors discuss the purpose of their book:

The purpose of this book is to detail how vocational evaluation may be used effectively by both educators and vocational rehabilitation professionals in working with disabled students to identify relevant skills, develop career oriented educational activity, promote effective transition from school to work, and maximize vocational potential needed to link the special-needs student with the world of work. The text is divided into three sections. The first section provides an historical [review] of the growth, direction, and present emphasis of education and vocational rehabilitation of disabled individuals. The second section identifies the vocational evaluation process with special-needs students and assists the reader in understanding how to use the varied vocational evaluation tools, tests, techniques, and activities. The third section includes chapters identifying vocational evaluation emphasis with specific disabilities in order to demonstrate differences in evaluation emphasis and application.

Jenkins, Larry E. *Report and Recommendations of the Governor's Task Force on Vocational Education Submitted to Governor William P. Clements, Jr., January 21, 1988.*

The Governor's Task Force on Vocational Education was established to evaluate the state's system of vocational education, to strengthen and to make appropriate recommendations to the program across all elements of secondary schools, community and junior colleges, the Texas State Technical Institute, colleges of engineering technology, extension services, and private institutions. The report summarizes the findings and presents recommendations and a rationale for action. A few key points are highlighted by the Task Force members:

1. There is a major opportunity for significant improvement in Texas's economic future by upgrading and improving the vocational and technical education offered our youth and adults pursuing further education and training.
2. There is both an international as well as national sense of urgency to get it done with increasing competition demanding success as the essential ingredient to economic survival. This issue is covered in an appendix to the report.
3. A very bright spot in this challenge is the existence of a well-conceived and comprehensive Master Plan for Vocational Education. The Task Force strongly endorses this plan and urges its timely implementation with an aggressive pursuit of results.
4. The Task Force is unanimous in endorsing the emphasis on developing the basic skills of reading, writing, calculating, communicating, analyzing, and problem solving as an essential foundation upon which a sound vocational education program can be built.
5. At the core of today's society is the absolute need for lifelong learning skills that prepare our students for continuing education and development vital in the ever-changing technological environment we work in today.
6. As we have vividly come to understand, quality is the cornerstone to any meaningful success, and that is particularly true in vocational education.
7. Clearly a major concern focuses on proper funding, and, indeed, some recommended actions will require some investment up front. Once a formula is developed to determine fair and proper funding, it needs to be fully funded.
8. Since vocational education represents one of the broadest and most available paths for our minority populations to achieve upward mobility and escape from poverty, special emphasis needs to be applied to increasing enrollments and establishing a support network that dramatically increases the number of minorities graduating from our vocational institutions.
9. Recognizing the difficulty of providing a promising future to those who drop out of school before receiving a high school diploma, the tide of an increasing dropout rate must be stemmed and dramatically reduced.
10. Finally, while all of the above steps are aimed at a major improvement in vocational education in Texas, a concomitant drive to upgrade and fully enhance the image of vocational education is a key ingredient to achieving meaningful change.

Joint Committee on Standards for Educational Evaluation. *Standards for Evaluations of Educational Programs, Projects, and Materials.* New York: McGraw-Hill Book Co., 1981.

In 1975, a committee was created to study education evaluation generally, operating under the assumption that no adequate standards for education evaluation existed, and that sound evaluation can promote the understanding and improvement of education. This Joint Committee on Standards for Educational Evaluation was comprised of members from the following educational organizations:

- American Association of School Administrators
- American Educational Research Association
- American Federation of Teachers
- American Personnel and Guidance Association
- American Psychological Association
- Association for Supervision and Curriculum Development
- Council for American Private Education
- Education Commission of the States
- National Association of Elementary School Principals
- National Council on Measurement in Education
- National Education Association
- National School Boards Association

The Joint Committee adopted definitions of key concepts (evaluation, standards) and defined the types of evaluation program, project, and materials evaluations. They identified four attributes necessary for sound evaluation: utility, feasibility, propriety, and accuracy.

King, Christopher T. "Final Report: Pilot Study Results," *A Post-Program, Follow-up Approach for Postsecondary Vocational Education Students.* Austin: Center for the Study of Human Resources, University of Texas at Austin.

This report discusses results of a pilot study conducted by the Center for the Study of Human Resources, a research facility of the LBJ School of Public Affairs, University of Texas at Austin. The objectives of the research project were to provide reliable and objective information on student outcomes at both the state and local level, while minimizing associated costs, and to test the feasibility of the proposed approach for follow-up data collection. The pilot study merged student records with unemployment insurance (UI) wage records from the Texas Employment Commission, resulting in an employment and earnings database on former students working in positions covered by Texas unemployment insurance. The database included a 15-month period. Student records were examined for Program Year 1988, including those students who completed a vocational education program, as well as those who did not return. Using UI wage records as a source of follow-up data in Texas proved to be extremely successful. This approach was cost-effective and also avoided the problems of inadequate response levels with questionable reliability that is involved with conventional survey techniques.

King, Christopher T. *Cross-Cutting Performance Management Issues in Human Resource Programs.* Research Report No. 88-12. Washington, D.C.: National Commission for Employment Policy, August 1988.

A number of key cross-cutting program management issues, including program performance standards, are discussed in relationship to federal, state, and local human resource programs. This paper focuses on the following programs: Job Training Partnership Act of 1982; job placement or the Employment Service authorized by the Wagner-Peyser Act of 1933; postsecondary vocational education or Voc Ed, reauthorized under the Carl Perkins Act of 1984; and a number of welfare-to-work programs, ranging from the Work Incentive (WIN) Program for recipients of federal/state Aid to Families with Dependent Children (AFDC) to the Food Stamp Employment and Training Program. The author states that vocational education programs have been ambiguous in their goals and objectives and lack accountability measures within their program design.

Kutscher, Ronald E. "Vocational Education's Responsiveness: Reactor Comments." In *Responsiveness of Training Institutions to Changing Labor Market Demands*, edited by Robert E. Taylor, Howard Rosen, and Frank C. Pratzner. Columbus: National Center for Research in Vocational Education, Ohio State University, 1983.

Kutscher responds to Chapters 15 and 16 in this book. He agrees with the authors' viewpoints on a number of issues—for example, that state and national trends are often ignored in planning vocational education and that local employment and occupational trends are often among key ingredients used in planning. However, he feels that additional questions need to be studied. He argues for the focus of the projections used in vocational education planning to consider not only the local area but also a broader geographic area, such as a region or state. Kutscher concludes his discussion with six areas that vocational education should emphasize.

Latta, Michael E. *An Evaluation of the Adequacy and Effectiveness of the Vocational Education Program Delivery Systems Assisted under the Carl D. Perkins Vocational Education Act and under the Job Training Partnership Act.* ERIC #ED 312 436.

The North Carolina State Advisory Council on Vocational Education studied the adequacy and effectiveness of the vocational education program delivery systems in the State of North Carolina assisted under the Carl D. Perkins Vocational Education Act of 1984 and under the Job Training Partnership Act of 1982. Evaluation was conducted through analysis of seven reports issued by various state agencies in connection with these two programs. The report presents detailed findings and recommendations. In general, the Council found limited coordination between the two programs, which has resulted in the programs not being as effective as they could be.

Madaus, George F., and Stufflebeam, Daniel L. *Educational Evaluation: Classic Works of Ralph W. Tyler*. Norwell, Maine: Kluwe Academic Publishers, 1989.

Types of evaluation are related to use of evaluation:

- To appraise the achievement of individual students
- To diagnose the learning difficulties of an individual student or an entire class to provide information help in planning subsequent teaching
- To appraise the educational effectiveness of curriculum or part of a curriculum, of instructional materials and procedures, and of administrative and organizational arrangements.

Each of these kinds of evaluation (listed above) is an essential part of the processes of teaching or administration. Teachers and administrators are using evaluation of one sort or another as one of their normal procedures. The information gained from these appraisals is focused upon individual student's efforts, class performance, or the effectiveness of the plans, materials, and procedures used by the teacher, the school, or the school system.

There is a fourth use of evaluation, which is to assess the educational progress of larger populations in order to provide the public with dependable information to help in the understanding of educational problems and needs and to guide in efforts to develop sound public policy regarding education. This type of assessment is not focused upon the individual students, classrooms, schools, or school systems, but furnishes overall information about the educational attainments of large numbers of people.

McArdle, Geri E.H. "What Is Evaluation." *Performance and Instruction*, 29(7), August 1990.

McArdle describes evaluation as "a series of activities conducted to measure the utility of training to the participant, organization, and trainer." She sees evaluation as an iterative process. Measurement instruments should measure not only the short-term effects of training, but also the long-term effects of training.

Metfessel, Newton S., and Michael, William B. "A Paradigm Involving Multiple Criterion Measures for the Evaluation Effectiveness of School Programs." *Educational and Psychological Measurement*, 27 (1967), 931-943.

The authors' purpose in writing this paper is (1) to present an eight-step procedural outline of the evaluation process in the form of a flowchart that maps out in a step-by-step sequence the key features of the evaluation process and (2) to furnish a detailed listing of multiple criterion measures that may be used in the evaluation of specific behavioral objectives.

The eight major phases of the process of evaluation are shown in temporal sequence with the role of lay individuals, professional personnel, and students identified throughout the sequence. The appendix lists multiple criterion measures of various types: behavior of students in terms of standardized measures and scales, informal or semiformal teacher-made instruments or devices, other student

behavior indicators than those measured by tests, inventories, and observation scales; indicators of teacher behavior and other school personnel in relation to the evaluation of school programs; indicators of community behaviors in relation to the evaluation of school programs.

Persavich, J.J., and Warmbrod, C.P. *Postsecondary Program Evaluation*. Columbus: National Center for Research in Vocational Education, Ohio State University, 1981.

Although the focus of this book is on developing evaluation materials at the postsecondary level, it can be usefully applied at the secondary level. The book provides a practical step-by-step approach to evaluation. It includes field-tested, sample documents and forms that can be used in the evaluation process. The materials presented for this book were prepared for the seven-member colleges of the National Postsecondary Alliance. The authors discuss the purpose and organization of the book in the executive summary:

This book was prepared to present an evaluation package that can be utilized to evaluate postsecondary occupational education programs at the local level. These materials are designed to gather information from the following sources: consultative teams, advisory committees, administrative and supervisory personnel, instructors, students, and employers.

Each chapter discusses these sources of information and goals and objectives for that particular aspect of the evaluation process. Two additional chapters, one covering cost analysis of occupational education programs and another on preparing and reporting evaluation results, are also presented.

Popham, W., ed. *Criterion-Reinforced Measurement: An Introduction*. Englewood Cliffs, N.J.: Educational Technology Publications, 1971.

This book resulted from a symposium at the 1970 meeting of the American Educational Research Association and the National Council on Measurement in Education. The symposium topic was "Criterion-Referenced Measurement: Emerging Issues." The book presents three introductory papers followed by the symposium papers. The first introductory paper is taken from Robert Glasner's 1963 article in *American Psychologist*. His paper addresses the measurement of subject matter proficiency. Achievement measurement can be defined as the assessment of terminal or criterion behavior; this involves the determination of the characteristics of student performance with respect to specified standards. Underlying the concept of achievement measurement is the notion of a continuum of knowledge acquisition ranging from no proficiency at all to perfect. An individual's achievement level falls at some point on this continuum as indicated by the behaviors he or she displays during testing. The degree to which his/her achievement resembles desired performance at any specified level is assessed by criterion-referenced measure of achievement or proficiency performance. Criterion levels can be established at any point in instruction where it is necessary to obtain information as to the adequacy of an individual's performance. Criterion-referenced measures are contrasted with norm-referenced measures.

Reubens, Beatrice G. "Responding to Changes in the Demand for Skilled Workers: The Experience of Other Countries." In *Responsiveness of Training Institutions to Changing Labor Market Demands*, edited by Robert E. Taylor, Howard Rosen, and Frank C. Pratzner. Columbus: National Center for Research in Vocational Education, Ohio State University, 1983.

In Chapter 18 in this book, Reubens inquires whether the measures adopted in other countries to cope with and anticipate an accelerated or diminished demand for skilled labor are relevant or adaptable to the United States, or whether they would improve the responsiveness of American institutions to changing labor market demands. The paper is divided into four parts: (1) the definition and measurement of labor shortages, (2) meeting the shortages, (3) adapting to a period of slack demand, and (4) implications for the United States.

Feller, Rich; Feldman, Marvin; and Taggart, Judith. *Preparation for a Productive Future*. Washington, D.C.: National Council on Vocational Education, 1986.

The National Council on Vocational Education, responding to the 1984 Carl Perkins Act, called for new adaptability of vocational education programs in this 1986 report. Because of continual technological change and intensifying international competition, the labor force needs to be flexible in learning new skills and adapting quickly to new technologies. There must be creative collaborative partnerships between the public and private sectors to improve productivity, as well as impact economic and national security.

Siann, Gerda, and Ugwuegbu, Denis C.E. "The Nature and Assessment of Intelligence and the Assessment of Academic Achievement." In *Educational Psychology in a Changing World*. London: George Allen and Unwin, 1980.

Chapter 11 of this book discusses the nature of intelligence, the assessment of intelligence, the functions of assessment, and the different kinds of assessment. It is concerned with the areas of assessment, both of intelligence and of academic achievement. The attributes that are assessed depend largely on social variables. Academic assessment serves three functions:

1. Assessment for improving and refining teaching and learning for pedagogic purposes
2. Assessment for selection
3. Assessment for validating educational institutions and their teaching

Academic achievement is multiply-determined for any particular individual—depending on home, family community, peers, school and its assessment procedures, and, most crucially, self-perception and the importance of educational achievement.

The authors identify two different approaches to assessment: *norm-referenced measurement* and *criterion-referenced assessment*. In norm-referenced assessment, an individual's scores are related to those of his or her peers. It is best used for selection purposes. In criterion-referenced assessment, an individual's scores are related to mastery of a set of criteria that are covered in the assessment. It is best used for the pedagogic and social purposes of assessment.

Smith, F. M., and Adams, S. *Educational Measurement for the Classroom Teacher*. New York: Harper and Row, 1966.

This text is divided into three parts: Part I, Introduction and Perspective; Part II, Using Teacher-Made Tests; Part III, Using Standardized Tests. Part I discusses basic aspects of educational measurement:

Chapter 1: Fundamental Nature of Measurement

Chapter 2: Measurement in Education

Chapter 3: Some Basic Statistical Operations

Chapter 4: Features of a Desirable Measuring Instrument

Each chapter in Part II discusses one of the major steps in measuring achievement or in using a specific type of test item. Chapter 5 deals with procedure; Chapter 6, objectives; Chapters 7-11, construction of instruments; Chapter 12, evaluating the instrument; Chapter 13, interpreting the data.

Starr, Harold. "Vocational Education's Response to Skilled Industrial Worker Shortages." In *Responsiveness of Training Institutions to Changing Labor Market Demands*, edited by Robert E. Taylor, Howard Rosen, and Frank C. Pratzner. Columbus: National Center for Research in Vocational Education, Ohio State University, 1983.

Chapter 17 describes a study conducted to determine how state and local vocational education agencies and institutions responded to presumed shortages of skilled, industrially oriented craftworkers and technicians since the mid-1970s. These insights would then serve as a basis for suggesting ways of improving that responsiveness in the 1980s and beyond. To arrive at these insights, the issue of shortages of skilled workers was examined along with indicators of the responsiveness of vocational education since the mid-1970s in providing the kinds of training that address these shortages. Implications of the findings and suggestions for improving the level of responsiveness of state and local vocational education in the 1980s and beyond are presented for consideration by policymakers and vocational education administrators.

Stanley, Julian C. *Measurement in Today's Schools*. 4th ed. Englewood Cliffs, N.J.: Prentice-Hall, 1964.

In the chapter, "Measurement and Evaluation Permeate Schools," the author discusses the term *evaluation*: "Throughout this book we shall use the word 'evaluation' to designate summing-up processes in which value judgments play a large part, as in grading and promoting students. Interpreting such scores, i.e., saying whether they are good or bad for a specific purpose, is evaluation." The book discusses how measurement and evaluation fit in the educative process. The first five chapters deal with fundamental principles of measurement and evaluation, and the last six chapters are concerned with the construction and use of measuring instruments. Appendixes provide technical material for reference.

Texas State Board of Education. *Biennial Evaluation of Vocational Education Programs and Report of Progress Under and Compliance with the Master Plan for Vocational Education.* Austin, Texas, January 10, 1987.

The Texas State Board of Education is required to present a biennial report under provisions of TEC 21.113 (g) related to the Master Plan for Vocational Education. This report fulfills that request. The report presented for this biennium describes the Master Plan and the process used in its development. Information on quantitative and qualitative evaluation of secondary and postsecondary vocational-technical programs is also provided.

Texas State Board of Education. *Career Opportunities in Texas: A Master Plan for Vocational Education.* January 10, 1987.

House Bill 72, Second Called Session, 68th Legislature, 1984, directed the State Board of Education to develop both a long-range plan for public education and a master plan for vocational education. The task force appointed to develop the vocational education master plan presented an initial draft to the State Board of Education for consideration in February 1986. In January 1987, *Career Opportunities in Texas: A Master Plan for Vocational Education* was adopted by the State Board of Education. The mission statement approved by the State Board of education on May 10, 1986, emphasizes quality, equity, and accountability in the educational system. The plan is presented in a three-part format: Part I addresses elementary and secondary education; Part II focuses on postsecondary vocational-technical education; Part III provides the framework for implementing regional planning for vocational-technical education. The Master Plan for Elementary and Secondary education is organized by eight State Board of Education goals. Each goal lists objectives and career development strategies for accomplishing the goals and objectives.

- *Goal 1: Student Performance:* All students will be expected to meet or exceed educational performance standards.
- *Goal 2: Curriculum:* A well-balanced curriculum will be taught so that all students may realize their learning potential and prepare for productive lives.
- *Goal 3: Teachers and Teaching:* Qualified and effective teachers will be attracted and retained.
- *Goal 4: Organization and Management:* The organization and management of all levels of the educational system will be productive, efficient, and accountable.
- *Goal 5: Finance:* The financing of public education will be equitable to all students in the state.
- *Goal 6: Parent and Community Involvement:* Parents and other members of the community will be partners in the improvement of schools.
- *Goal 7: Innovation:* The instructional program will be continually improved by the development and use of more effective methods.
- *Goal 8: Communications:* Communications among all public education interests will be consistent, timely, and effective.

Texas State Board of Education and Texas Higher Education Coordinating Board.
Career Opportunities in Texas: A Master Plan for Vocational and Technical Education (1989 Update). January 1990.

After the adoption by the State Board of Education of the Master Plan for Vocational Education in January 1987, the State Board of Education and the Texas Higher Education Coordinating Board reviewed the Master Plan during the summer of 1989. The resulting 1989 update of the Master Plan has three parts: The first addresses elementary and secondary education and was developed by the State Board of Education; the second section focuses on higher education and was developed by the Coordinating Board; the third section was originally entitled "Regional Planning." It has been retitled to reflect its basic goal, the development of an integrated delivery system through regional planning to foster the creation of a skilled workforce.

The State Board of Education approved six revisions to the first section of the Master Plan.

- One revision addresses the Board's decision regarding Coordinated Vocational Academic Education in grades 7 and 8 to restore vocational funding and ensure close coordination between academic and vocational course components.
- A second revision addresses the strengthening of Coordinated Vocational Academic Education for students in grades 9-12, with Board consideration of rules scheduled for spring 1990.
- A third revision expands existing effort to provide teachers with additional information necessary for assisting students in finding employment related to their training.
- A fourth revision makes applied mathematics instructional units available for use in existing vocational education and mathematics courses.
- The fifth revision expands the sunset review process to consider program offerings in response to state regional lists of priority occupations.
- The final revision expands the methods and strategies for promoting the role and benefits of vocational education through local advisory committees to include staff development and related inservice activities.

The second section focuses on higher education and was developed by the Coordinating Board. The Coordinating Board was assisted in the revision process by a Task Force, identified in Appendix A of the Plan. The original 12 postsecondary goal areas have been reorganized into six goals. None of the original goals were deleted, although some are now classified as strategies rather than goals. The result is a clarification and renewed emphasis on the fundamental mission of the higher education section and a reorder presentation of the goals and strategies.

The third section summarizes the efforts of a triagency partnership between the Texas Education Agency, the Texas Higher Education Coordinating Board, and the Texas Department of Commerce. The three agencies have worked together to

develop a regional planning structure and process to support the development of a skilled and education workforce in Texas. Action plans have been updated to recognize achieved outcomes and future management steps needed to move toward statewide implementation of regional planning by the fall of 1990.

The two Boards agree on the basic principles that underlie all the goals and strategies of the Master Plan:

- **Quality**—ensure flexible, responsive, and timely education and training programs and services related to the Texas economy and the needs of Texas employers
- **Equity**—provide access to educational opportunities and skills training so that all students can develop competencies and become prepared for productive lives
- **Accountability**—provide efficient, effective, and measurable progress in achieving the goals of the plan

Texas State Board of Education. *Quality, Equity, Accountability: Long-Range Plan for Public Education 1991-1995.* March 1991.

Texas schools must equip children with high levels of knowledge and skills needed to compete and cooperate globally in the 21st century. To meet these social and economic challenges and to comply with the Texas Education Code, Section 11.26 (b), the State Board of Education has developed a long-range plan for 1991-1995. The plan outlines nine goals, each with action steps to be taken at state, regional, and local levels.

- **Goal 1: Student Learning:** All students will achieve their full educational potential.
- **Goal 2: Curriculum and Programs:** A well-balanced and appropriate curriculum will be provided to all students.
- **Goal 3: Personnel:** Qualified and effective personnel will be attracted and retained.
- **Goal 4: Organization and Management:** The organization and management of all levels of the educational system will be productive, efficient, and accountable.
- **Goal 5: Finance:** The financing of public education will be adequate, equitable, and efficient.
- **Goal 6: Parent Responsibility:** Parents will be full partners in the education of their children.
- **Goal 7: Community and Business Partnerships:** Businesses and other members of the community will be partner in the improvement of schools.
- **Goal 8: Research, Development, and Evaluation:** Instruction and administration will be improved through research that identifies creative and effective methods.
- **Goal 9: Communications:** Communications among all public education interests will be consistent, timely, and effective.

Each State Board of Education goal is tied to a legislative goal. Objectives to that goal are identified. Specific steps to be taken at the state, district, and school level to achieve the goals and objectives are listed. The State Board selected performance measures to chart progress towards accomplishing the goals of the Long-Range Plan. The academic excellence indicators are:

- Results on the Texas Assessment of Academic Skills, in particular:
 1. percentage of students mastering all tests taken
 2. percentage of students meeting board academic excellence standard
- Results on norm-referenced tests
- Results on the Texas Academic Skills Program tests, an assessment to determine whether college freshmen have the higher-level reading, writing, and mathematics skills needed to perform college work
- Results on the Scholastic Aptitude Test (SAT) and American College Test (ACT) in particular:
 1. average score
 2. percentage of graduating seniors taking the test
 3. percentage of students scoring above 1,000 on SAT total and equivalent on ACT
- Graduation rate
- Enrollment in advanced courses
- Student attendance
- Dropout rate
- Percentage of students expected to graduate designated "advanced" or "advanced with honors"
- Postgraduate performance in the workplace
- Quality of educational achievement of ethnic groups within a campus.

Wentling, Tim L., and Lawson, Tom E. *Evaluating Occupational Education and Training Programs*. Boston: Allyn and Bacon, 1975.

Wentling and Lawson's book is a basic evaluation methodology text. Chapter 1 provides a brief history of the evaluation process. Chapter 2 discusses reasons why evaluation is important, some of the problems of previous evaluation systems, and a general discussion of what should be included in an evaluation system. Types of evaluation are discussed: context, input, process, and product. Chapters 3 through 8 provide specific evaluation procedures, including student assessment, student follow-up, employer survey, consultative team evaluation, personnel evaluation, and cost analysis.

Wentling, Tim L., and Roegge, Chris A. "Development of a Computer-Aided Evaluation System for Vocational Education Programs," *Journal of Vocational Education Research*, 14:4, Fall 1989.

Wentling and Roegge feel that in the 1990s vocational education evaluation will emphasize: program outcomes (including student performance measures), an increased use of evaluation by policymakers and lawmakers, and attempts to use contemporary technology to enhance educational evaluation. The Illinois State

Board of Education desired an evaluation system that would focus on the outcomes of vocational education programs and the essential elements of programs at both the secondary and the community college levels. They wanted to strengthen the connection between secondary and community college programs. In the article, the authors discuss designing an evaluation system for Illinois. The purpose of the project was to design, develop, and implement an evaluation system that would meet the newly identified needs of vocational education in Illinois. Six broadly applicable vital signs of vocational program status were identified. Two expert systems were developed to assist practitioners in assessing program vital signs, conducting in-depth analysis of substandard vital signs, and developing program improvement plans.

Wilhelms, Fred T., ed. *Evaluation as Feedback and Guide*. Washington, D.C.: Association for Supervision and Curriculum Development, NEA, 1967.

The 1967 Yearbook Committee of the Association for Supervision and Curriculum Development focused its attention on the subject of evaluation. The Committee recognized the social and technological changes that were taking place in the 1960s. Because of these changes, they felt it was necessary to study the evaluation process conceptually rather than provide a technical manual on how to evaluate. The book provides a theoretical overview of the evaluation process with different perspectives from the contributors. However, the contributors to the book shared a central theme that the purpose of evaluation is to provide feedback and guidance to the whole educational process at every level. They felt that the existing system of evaluation, which had emerged into marking, grading, and crediting, must be replaced by a system dedicated to the fundamental needs of the learner and teacher, as well as those of the curriculum designer and policy maker.

Wirt, John G. (Director); Muraskin, Lana; Meyer, Robert; and Goodwin, David. "National Assessment of Vocational Education, Testimony before the House Education and Labor Committee," *Economics of Education Review*, 8:4 (1989), 383-392.

For two and one-half years, the National Assessment of Vocational Education (NAVE) conducted studies of participation in and the outcomes of vocational education at secondary and postsecondary levels. This article presents the testimony before the House Education and Labor Committee describing the research findings and recommendations of NAVE. It discusses some regulatory problems of previous Carl Perkins legislation of 1984. The authors discuss a plan for an expanded federal role in vocational education. Their recommendations for state vocational reform plans should include the following activities:

1. Upgrade the content of vocational courses to emphasize more advanced broad and specific job skills and transferrable academic skills.
2. Align and integrate high school academic and vocational education.
3. Increase the placement of high school students in jobs that fully tap the skills acquired in high school.
4. Increase the continuity of vocational training between secondary and postsecondary institutions by working with representatives from

postsecondary education. Such plans could include financial incentives to nearby secondary and postsecondary institutions to establish well-defined sequences of training that cut across institutional boundaries.

5. Ensure that at-risk students, particularly dropout-prone students, handicapped students, limited English proficient students, and women enrolled in nontraditional programs, obtain the assistance necessary to gain access to and succeed in high-grade vocational education.
6. Design and collect, with the assistance of the federal office, performance measures intended to assess the success of the specific program initiatives just mentioned. These should include measures of individual performance: academic skills; occupational competencies; program completion and quality; job characteristics such as wages, occupation, and industry; as well as school-level measures such as access and performance of at-risk students.

Wirt, John G. *Final Report Volume I, Summary of Findings and Recommendations*. Washington, D.C.: National Assessment of Vocational Education, U.S. Department of Education, July 1989.

Descriptions and evaluations of the vocational education services delivered to special populations, the effects of the Carl Perkins Act of 1984 in modernizing the vocational education system, the impact of vocational education on academic skills and employment opportunities, and other topics as mandated by Congress in the Act [Section 403 (a)].

Wolman, Jean. *Technical Assistance Guide for JTPA Follow-up and Validation*. Washington, D.C.: Employment and Training Administration, U.S. Department of Labor, June 1990.

The goal of the Job Training Partnership Act (JTPA) of 1982 is long-term employability. To obtain feedback on the effectiveness of JTPA programs in promoting retention in the labor force, the U.S. Department of Labor required states or service delivery areas to collect information on the post-program outcomes of JTPA participants, beginning October 1, 1986. The *Technical Assistance Guide* is an update of the 1986 guide. It is designed to help all those involved in the JTPA follow-up process obtain accurate, valid follow-up data that meet the federal reporting requirements, that provide an equitable basis for incentive awards, and that yield useful information for program management decisions at all levels. Also in this report they mention some of the problems with using follow-up data.

Appendix D

Expanded Summary of Results of Survey of Other States

State	Contact Person	Respondent	Address	Telephone No.	Comments	Mailing List
Alabama	Stephen Franks Director, Division of Vocational Education Services	Stephen Franks Director, Division of Vocational Education Services	Gordon Persons Bldg. 5106 Gordon Persons Bldg. Montgomery, Alabama 36130-3901	205 / 242-9111		yes
Alaska	Karen Ryals State Director, Adult and Vocational Education	Karen Ryals State Director, Adult and Vocational Education	Goldbelt Place 801 West 10th Street Juneau, Alaska 99811-0550	907 / 465-4685	They are beginning the process of developing criteria. They sent measurable criteria they had developed for JTPA programs.	yes
Arkansas	Raymond Morrison State Director, Department of Vocational and Technical Education	Raymond Morrison State Director, Department of Vocational and Technical Education	Three Capitol Mall Luther S. Harding Bldg. Little Rock, Arkansas 72201-1083	501 / 682-4475	They are currently developing standards. They are not ready to send their report.	yes
Arizona	Barbara Border State Director of Vocational Education	Charles Losh and Mary Dohar, Special Needs State Supervisor	1535 W. Jefferson Phoenix, Arizona 85007	602 / 542-5343	Sent program standards used in the past. They are in the process of developing new standards.	yes
California	James T. Allison Director, State Department of Education, Vocational Education Division		P.O. Box 944272, 721 Capitol Mall Sacramento, California 95814-4785	916 / 445-3314		
Colorado	Clay Whitlow Vice President of Educational Services, Colorado Community College & Occupational Education	Gregory P. Smith, Coordinator of Institutional Research and Evaluation	1391 N. Speer Blvd., #600 Denver, Colorado 80202-2554	303 / 620-4000	At this time no performance standards. Simply reporting requirements. However, draft performance standards will be ready for distribution end of July.	yes
Connecticut	Theodore Sergi Associate Commissioner, Division of Vocational & Adult Education	Leslie M. Aversa Chief, Bureau of Vocational Services	25 Industrial Park Rd. Middletown, Connecticut 06457	203 / 620-4057	They are in the process of developing standards. They will be happy to share this information at a later date.	yes
Delaware	Thomas W. Welch State Director of Vocational Ed.		J.G. Townsend Building P.O. Box 1402 Dover, Delaware 19901	302 / 736-4638		
District of Columbia	Cynthia M. Bell State Director of Vocational Education	Otho E. Jones Assistant Superintendent State Education Agency for Vocational and Adult Education	Browne Administrative Unit 26th St. & Benning Rd. N.E. Washington, D.C. 20002	202 / 724-2097	They are presently involved in developing standards for all vocational programs. They will share them upon completion.	yes

State	Contact Person	Respondent	Address	Telephone No.	Comments	Mailing List
Florida	Robert Howell State Director State Department of Education, Division of Vocational Education	Robert Howell State Director State Department of Education, Division of Vocational Education	Knott Building Tallahassee, Florida 32201	904 / 488-8961	They sent previously developed performance standards.	yes
Georgia	William P. Johnson Associate State Superintendent of Vocational Education	Patty O. Higgins	1766 Twin Towers East Atlanta, Georgia 30334	404 / 656-6711	Sent materials from program evaluation system that is already in place. Still working and doing research on developing new standards.	yes
Hawaii	Lawrence A. Inaba State Director Department of Education University of Hawaii	Barbara White Acting State Director for Vocational Education	1633 Bachman Place Sinclair Annex 1, Room 4 Honolulu, Hawaii 96822-2489	808 / 948-7461	No work has been done at this time in developing performance standards.	yes
Idaho	Trudy Anderson State Administrator, Division of Vocational Education	Michael Rush, Director of Research Division of Vocational Education	650 W. State Street Boise, Idaho 83720	208 / 334-3216	Working with Committee of Practitioners and JTPA to develop standards. Goal is to finish standards by January 1992.	yes
Illinois	Richard J. Miguel State Director Vocational and Technical Education	Kathleen Nicholson-Tosh Manager, Vocational Education Programs Services	100 North First Street Springfield, Illinois 62777-0001	217 / 782-4877	They are in the process of developing performance standards. They sent draft document identifying six major outcome areas that are being reviewed.	yes
Indiana	William E. Christopher Commissioner, Indiana Com. on Vocational & Technical Education		325 W. Washington St. Indianapolis, Indiana 46204	317 / 232-1814		
Iowa	Phyllis Herriage Director of Career Education	Margaret Ellibee Agricultural Education Consultant, Iowa Department of Education	Grimes State Office Bldg. Des Moines, Iowa 50319	515 / 281-4702	They are beginning the process of developing standards. Their committee met for the first time in January.	yes
Kansas	Tom Moore State Director State Department of Education	Patricia P. Kells Technical Team Specialist for Performance Measures	120 E. Tenth Street Topeka, Kansas 66612	913 / 296-3201	They are not applying performance standards at this time. They are just beginning to develop performance standards in response to Perkins Act.	yes
Kentucky	Audrey T. Carr Superintendent for Vocational Education	Jim Byford	2011 Capital Plaza Tower Frankfurt, Kentucky 40601	502 / 564-4268 502 / 564-2890	Will send current materials.	yes

State	Contact Person	Respondent	Address	Telephone No.	Comments	Mailing List
Louisiana	Don R. Wood Assistant State Superintendent of Vocational Education	Don R. Wood Assistant State Superintendent of Vocational Education	Capitol Station - Box 94064 Baton Rouge, Louisiana 70804-9064	504 / 343-4411	They sent the competency- based standards that are now in place. They are currently revising the standards, and will send them.	yes
Maine	William H. Cassidy Associate Commissioner Bureau of Vocational Education	William H. Cassidy Associate Commissioner Bureau of Vocational Education	State House Station #23 Augusta, Maine 04333-0023	207 / 289-5854	Sent copy of developing performance standards adopted 1/9/91.	yes
Maryland	Katherine Oliver Assistant State Superintendent Vocational and Technical Education	Leo Lezzer Coordinator, Program Accountability	200 W. Baltimore Street Baltimore, Maryland 21201	301 / 333-2075	They are in the process of developing standards. They sent previously developed materials on program assessment.	yes
Massachusetts	David F. Cronin Associate Commissioner Occupational Education	John P. McDonagh Director, Bureau of Planning Research and Development	1385 Hancock Street Quincy, Massachusetts 02169	617 / 770-7350	They soon will be funding a project at the University of Mass. The Project Director will share information when complete.	yes
Michigan	Loia V. Jackson State Director, Vocational and Technical Education	William R. Rude, Coordinator Planning, Evaluation & Finance	P.O. Box 30009 Lansing, Michigan 48909	517 / 373-3373	Current performance standards are curriculum tasks, similar to VTECS. Standards required by Section 115 of PL101-392 are being developed. Sent draft to date.	yes
Minnesota	Helen Henry Acting State Director, State Board of Vocational & Technical Education	Helen Henry Deputy Chancellor Minnesota Technical College System	565 Capitol Square 550 Cedar Street St. Paul, Minnesota 55101	612 / 296-3995	They are in the process of developing standards projected to be established by September 1991. Sent guidelines that they are using to develop standards.	yes
Mississippi	Elywn Wheat Associate State Superintendent, Vocational Technical Education		P.O. Box 771 Jackson, Mississippi 39205	601 / 359-3088	Have copy of general program standards developed for vocational education in 1984.	yes
Missouri	Frank Drake Assist. Commissioner, Director of Vocational Education		P.O. Box 480 Jefferson City, Missouri 65102	314 / 751-2660		
Montana	Brady Vardemann Deputy Commissioner for Vocational Education	Ms. Sib Clack, Director Federal Vocational Grants	33 S. Last Chance Gulch Helena, Montana 59620-2602	406 / 444-6570	There are no specific performance standards in effect for voc. ed. Enclosed are initial core standards developed for purpose of PL101-392.	yes
Nebraska	Marge Harouff Assistant Commissioner for Vocational Education		301 Centennial Mall So. 6th Floor P.O. Box 94987 Lincoln, Nebraska 68509	402 / 471-4800		

State	Contact Person	Respondent	Address	Telephone No.	Comments	Mailing List
Nevada	Bill Traver Director, Vocational Education		400 W. King Street Carson City, Nevada 89710	702 / 885-3144		
New Hampshire	G. William Porter Director, Department of Education	Joan Schwartz Director, Research Coordinating Unit	State Office Park South 101 Pleasant Street Concord, New Hampshire 03301	603 / 271-3454	They are presently developing standards. The should be in place by September 1992. They will send them when completed.	yes
New Jersey	Lloyd J. Newbaker Assistant Commissioner of Vocational Education	Michael G. Curran, Jr. Acting Assistant Commissioner	225 W. State Street Trenton, New Jersey 08625	609 / 292-6340	They are in the process of revising performance standards. They sent copies of existing standards.	yes
New Mexico	Albert Zamora State Director, Vocational Technical Education	Tom Trujillo, Assistant State Superintendent for Voc.-Tech Education	200 Don Gasper Santa Fe, New Mexico 87503	505 / 827-6511	Developed & adopted standards for Voc.Ed. programs August 1990. Developing additional material to satisfy Section 115. Sent timeline.	yes
New York	James A. Kadamus Assistant Commissioner Occupational and Career Education		One Commerce Plaza, #1624 Albany, New York 12234	518 / 474-3981		
North Carolina	Clifton B. Belcher State Director, Division of Vocational Educational Services		116 W. Edenton St. Rm. 535 Raleigh, North Carolina 27603-1712	919 / 733-7362		
North Dakota	Carol E. Burchinal Director, State Board of Education		State capitol, 15th Floor Bismark, North Dakota 58505-0610	701 / 224-2259	Sent draft of standards of program quality and student performances.	yes
Ohio	Darrell L. Parks Director of Vocational & Career Education	Darrell L. Parks Director of Vocational & Career Education	65 S. Front Street, Room 907 Columbus, Ohio 43266-0303	614 / 466-3430	Sent draft (1/23/91) of core standards and performance measures.	yes
Oklahoma	Roy V. Peters, Jr. State Director, Dept. of Education	Linda Thompson Coordinator - Evaluation & Accreditation Div.	1500 W. Seventh Ave. Stillwater, Oklahoma 74074	405 / 377-2000	Just completed the first year of a 3 year outcome-based program eval. pilot. Sent copy. Developing additional material for CP Law.	yes
Oregon	Monty Multanen Assist. Superintendent, Division of Vocational Education		700 Pringle Parkway, S.E. Salem, Oregon 97310-0290	503 / 378-2337		
Pennsylvania	Ferman B. Moody Director, Bureau of Vocational & Adult Education	James H. Bishop Bureau of Vocational & Adult Education	333 Market Street 6th Floor Harrisburg, Pennsylvania 17126-0333	717 / 787-5530	Sent Bureau Task Force Report on performance standards developed in response to Carl Perkins Act.	yes

State	Contact Person	Respondent	Address	Telephone No.	Comments	Mailing List
Rhode Island	Frank M. Santoro Deputy Assistant Commissioner for Vocational Education	James F. Keough, Jr. Education Specialist Division of Vocational & Adult Education	Roger Williams Bldg. #222B 22 Hayes Street Providence, Rhode Island 02908	401 / 277-2691	Sent standards that they previously developed in 1989. They are now in the process of revising these based on CPL Section 115.	yes
South Carolina	Moody Oswald Director, Office of Vocational Education	Lee W. Sloan Coordinator, Office of Vocational Education	908 Rutledge Office Building Columbia, South Carolina 29201	803 / 734-8400	Utilizing existing standards (sent these). They are developing additional criteria for CP Law. Will send it upon completion.	yes
South Dakota	Aubrey P. Zikmund State Director, Division of Vocational Technical Education	Larry G. Nelson Assistant State Director	Richard Kneip Building 700 Governors Drive Pierre, South Dakota 57501-2291	605 / 773-3423	They are currently in the process of developing performance standards.	yes
Tennessee	Marvin Flatt Assistant Commissioner Division of Vocational Education	Marvin Flatt	200 Cordell Hull Building Nashville, Tennessee 37243-0383	615 / 741-1716	They are in the process of developing standards to meet the requirements of Section 115 of Carl Perkins Law.	yes
Utah	Joe O. Luke State Director, Office of Vocational Education		250 E. 500 South Salt Lake City, Utah 84111	801 / 533-7500		
Vermont	Gerald A. Asselin Director, State Department of Education	Charles Siender Vocational Education Evaluation Consultant	State Office Building Montpelier, Vermont 5602-2703	802 / 828-3101	In the past, Vermont used state developed core competencies and task lists. They are currently revising these.	yes
Virginia	Jerry Hicks State Director, Vocational and Adult Education		Box 6Q - 101 N. 14th Street Richmond, Virginia 23216	804 / 225-2073		
Washington	Merritt D. Long Executive Director, State Board for Vocational Education	Walter S. Wong Administer, Planning and Policy Division	Building #17, Airdustrial Park MS / LS-10 Olympia, Washington 98504-6110	206 / 753-5676	Standards have not yet been developed. A Committee of Practitioner has assembled. They will be sending future reports.	yes
West Virginia	Adam Sponaugle Assistant Superintendent, Bureau of Vocational, Technical, and Adult Education	Hobart L. Harmon, Director Instructional Services; and Saundra Perry	1900 Washington Six, Room B22 Charleston, West Virginia 25306	304 / 348-2122	They are currently meeting with their Committee of Practitioners and are in the process of developing standards.	yes
Wisconsin	Dwight York State Director, State Board of VTAE	Dwight A. York State Director	310 Price Place, P.O. Box 7874 Madison, Wisconsin 53707	608 / 266-1770	Will send current system of standards. Statewide advisory committee assessing present evaluation system.	yes
Wyoming	Gayle R. Lain State Director, State Department of Education		6106 Yellowstone Drive, Suite A Cheyenne, Wyoming 82009	307 / 634-5707		

Appendix E

Agenda and Summary of Meetings of the Advisory Committee



DIVISION OF CONTINUING EDUCATION
THE UNIVERSITY OF TEXAS AT AUSTIN

Extension Instruction & Materials Center • P. O. Box 7218 • Austin, Texas 78713-7218 • (512) 471-7716

**Research and Development
of
Performance Standards
for
Selected Vocational Education Programs**

**First Advisory Committee Meeting
September 18, 1990**

Agenda

10:00 a.m.	Welcome Introductions	Dr. Barbara Selke-Kern Richard A. Bouton
10:10 a.m.	Background Information • <i>Project History</i> • <i>Relevant Legislation</i> • <i>Rationale</i> • <i>STARS</i> • <i>Performance Measures</i> • <i>Project Methodology</i>	Richard A. Bouton
11:05 a.m.	Research Resources <i>Group suggestions</i>	Margaret Kaluzny
11:15 a.m.	Performance Standards <i>Recommendations for Standards Applicable to all Vocational Education Programs</i>	Group Discussion
12:00 noon	Lunch	
1:00 p.m.	Course Selection <i>Criteria Recommendations</i>	Group Discussion
1:30 p.m.	Program Area Advisory Groups <i>Membership Recommendations</i>	Group Discussion
2:00 p.m.	Adjourn	

*Research and Development of Performance Standards for
Selected Vocational Education Programs*

**Summary of First Advisory Committee Meeting
September 18, 1990**

The first advisory committee meeting was held on Tuesday, September 18, from 10:00 a.m. to 2:00 p.m. at the Walter Webb Hall Faculty Center on the campus of the University of Texas at Austin. Twenty-two invitations were sent, and there were twenty-one participants at the meeting. Barbara Terrell, Director of Programs for Health Occupations Education, was unable to attend. Attachment #1 identifies the members present.

Dr. Barbara Selke-Kern, Director of Materials Development, Extension Instruction and Materials Center (EMIC), opened the meeting with welcoming remarks. She discussed the role of EMIC and the development of the proposal. She introduced Richard Bouton, the Project Manager. Richard Bouton provided an update on the legislative status of the Carl Perkins Vocational and Applied Technology Education Act of 1990. The Act passed out of conference committee on Thursday, September 13, and is awaiting the final step of the President's signature. Performance standards are an important part of the Act.

Richard Bouton discussed the background, focus, and timeline of the project. Performance standards will be researched and developed for twenty courses, with at least one course from each program area. It was stressed that the final product will be a modular-designed evaluation system based on the performance criteria. The modular components will be (1) criteria which are specific to courses; (2) criteria unique to a vocational program area; (3) criteria based on the needs of special populations; (4) criteria applicable to all vocational programs. The project began in mid-July 1990, and the completion date is June 30, 1991.

Following the presentation of this background information there was discussion from the committee members. Will Reese, Texas Council on Vocational Education, questioned what was being done at the postsecondary level and if the members of the postsecondary board would be participating on this committee. Robert Patterson, Director of Vocational Programs from Texas Education Agency, reminded the committee members that this project was focusing on the secondary level. Judith Hetherly, Texas Education Agency, felt it would be a good idea to include a member of the coordinating board on the advisory committee, especially if the courses chosen for this pilot project included ones which had a 2+2 component.

The committee members discussed general issues important in developing performance standards. Will Reese felt it was important to look at the critics' comments when developing performance standards. Several members suggested that there was a need to refer to the Master Plan for Vocational Education and the Long-Range Plan for Public Education (latest revisions) while setting performance standards. Judith Hetherly suggested the committee consider a comprehensive approach when developing the performance standards. Investigation should include all of the things it takes for a student to be successful. The whole child should be studied. Sandra Marvel, Wichita Falls Independent School District, felt it was important to look at those who are unemployed, but seeking employment. Linda Parrish, Texas A&M University, felt the quality of placement should be considered, not just the quantity of placements. Bill Demestihis, Austin/Travis County Private Industry Council, Inc., stated that the Department of Labor and the Department of Commerce have researched and developed performance standards, and we could be learning from their experience. He also felt that performance standards should reflect what level is needed, not the level we think we can reach. He stressed the importance not only of job placement, but also of job retention. For example, can the person retain a job for at least thirteen weeks?

Several committee members felt that what was done in the past in developing performance standards was not adequate. The vocational education impact has not been thoroughly addressed. Will Reese said that in the past, vocational educators have generated much data, but that it has not satisfied the policymakers and legislators. Judith Hetherly stated that we should not keep doing what has been done in the past. Performance standards should be carried further.

Several members addressed the issue of putting the special needs population in each program area. Linda Parrish initiated the discussion, suggesting that the special needs population should not be a separate program. Other members of the group concurred. Eleanor Mikulin agreed that the special needs population should be within each specific program area. She felt it would be beneficial to have a small advisory group to meet and incorporate the needs of the special population in each program area. Linda Parrish and Robert Patterson said the exception is BVE and IVE. These groups should have separate performance standards.

Robert Patterson recommended using the Master Plan for Vocational Education and the common essential elements for all programs as a basis for developing performance standards.

Sylvia Clark, Texas Education Agency, suggested having guidance as a special program area. The National Program Guidelines have career/guidance as a separate committee.

Berry Sullivan, Texas Education Agency, felt that the cooperative programs should not have a separate advisory group. The committee members agreed. It is not a program area.

Richard Bouton brought the discussion to a close. He discussed the proposed procedure for the formation of the small advisory groups. Each group will have seven people who have expertise in the specific area of that group. The primary purpose of the small advisory groups will be to provide guidance in the selection of criteria which are specific to their program areas or courses. To be effective, the groups should meet a minimum of two times. The meetings will be conducted using the teleconference capabilities of EIMC. The advisory committee members were in agreement regarding these procedures. The next scheduled full advisory committee meeting will be February 12, 1990, from 10:00 to 2:00 p.m. The meeting place has not yet been determined.

Margaret Kaluzny, EMIC researcher, provided a status report of library research on previously developed performance standards. Suggestions were made as to other possible resources. Several Advisory Members recommended obtaining copies of the latest Master Plan for Vocational Education and the Long-Range Plan for Public Education. The existing national standards for Home Economics, Industrial Technology, Trade and Industrial, Agriculture, Marketing Education, Office Education, and Health Occupations can be obtained through the Program Directors of Texas Education Agency. The National Network for Curriculum, the National Council on Vocational Education, and the Bureau of Business Research were other resources mentioned.

The committee discussed the criteria for selecting the twenty vocational courses that will be used to develop the model performance standards. Group discussion indicated that high enrollment and priority of emerging occupations are important factors to consider in selecting the twenty courses. Discussion followed as to what method to use to select the twenty courses. Robert Patterson said that the method of teaching, e.g., co-op versus lab, is not the issue. The focus should be on student outcomes. Sam Zigrossi, IBM, agreed, saying the goals should drive the standards, and the standards should drive the process. The advisory committee members suggested courses from each program area. A tentative and prioritized list of courses (see Attachment #2) was suggested by the Committee. It was agreed that this list would be refined by the Project Director and sent to the Committee Members for review.

The meeting adjourned at 2:15 p.m.

**Advisory Committee Members Present at First Advisory Meeting
September 18, 1990**

Neil E. Ballard
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Industrial Technology Education
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512/463-9474

Richard A. Bouton
Project Director
EIMC
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Sylvia Clark
Occupational Education Specialist
Vocational Education
Texas Education Agency
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James M. Cogdell
Director of Programs
Trade and Industrial Education
Texas Education Agency
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Bill Demestihis
Executive Director
Austin/Travis County
Private Industry Council Inc.
1106 Clayton Lane, Suite 108E
Austin, TX 78723
512/458-4774

Jay L. Eudy
Director of Programs
Agricultural Education
Texas Education Agency
1701 N. Congress Avenue
Austin, TX 78701
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Mike Garcia
Executive Director
Texas Health Careers
Texas Hospital Association
P.O. Box 15587
Austin, TX 78761
512/465-1000

Robert K. Gordon
Director of Programs
Vocational Office Education
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1701 N. Congress Avenue
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Leonard Harcrow
Retired/Past President of TVAA
614 Magnolia
Mt. Pleasant, TX 75455
214/572-7659

Judith A. Hetherly
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Vocational Home Economics
Education
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Margaret A. Kaluzny
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Sandra M. Marvel
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817/720-3224

Eleanor Mikulin
Director of Programs
Vocational Special Needs
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Linda Parrish
Associate Professor
Department of Educational Psychology
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Robert Patterson
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COURSES SUGGESTED FOR MODEL

Home Economics

Comprehensive Home Economics—high enrollment
Parenting and Child Development—high enrollment
Child Care—high enrollment

Industrial Technology Education

Technology Systems—high enrollment
Introduction to Industrial Technology I—high enrollment
Computer Applications—emerging occupation

Trade and Industrial Education

Automotive Technician—high enrollment
Cosmetology—high enrollment
Metal Trades—high enrollment
Welding—high enrollment
Law Enforcement—high enrollment

Marketing Education

Marketing Education I—high enrollment
Retail Merchandising—priority occupation, small business

Agriculture and Agribusiness Education

Introduction to World Agriculture—priority occupation, high enrollment
Recreation and Wildlife Management—emerging environmental issue
Agribusiness Management/Marketing—emerging occupation

Office Education

Microcomputer applications—high enrollment
Business information processing—emerging occupation

Health Occupation Education

Health Care Science—high enrollment

Guidance

Career Investigation—comprehensive

Special Needs Populations

BVE

Attachment #2



DIVISION OF CONTINUING EDUCATION
THE UNIVERSITY OF TEXAS AT AUSTIN

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**Research and Development
of
Performance Standards
for
Selected Vocational Education Programs**

**Second Advisory Committee Meeting
February 12, 1991**

Agenda

10:00 a.m.	Welcome	Dr. Barbara Selke-Kern
10:05 a.m.	Briefing	Richard A. Bouton
	• <i>Minutes of First Meeting</i> • <i>Changes Since First Meeting</i> • <i>Research Report</i> • <i>Other States</i> • <i>Special Advisory Groups</i>	
11:00 a.m.	Major Issues Concerning Performance Standards	Group Discussion
12:00 noon	Lunch	
1:00 p.m.	Ideas for Performance Standards	Group Discussion
2:00 p.m.	Adjourn	

***Research and Development of Performance Standards for
Selected Vocational Education Programs***

Revised List of Courses Included in This Project

Home Economics

- Comprehensive Home Economics (9-12)
- Parenting and Child Development (10-12)
- Advanced Child Development (10-12)
- Child Care and Guidance, Management and Services (11-12)

Industrial Technology Education

- Technology Systems (9)
- Computer Applications (10)
- Electricity/Electronics Systems (11)
- Research and Development (12)

Trade and Industrial Education

- Automotive Technician (11-12)
- Cosmetology (11-12)

Marketing Education

- Retail Merchandising (10-12)
- Marketing Education I (11-12)
- Marketing Education II (12)

Agriculture and Agribusiness Education

- Introduction to Agricultural Mechanics (10-12)
- Agricultural Structures Technology (10-12)
- Agricultural Mechanics (11-12)

Office Education

- Microcomputer Operations (10)
- Business Information Processing (11)
- Office Administrative Systems [Coop] (12)

Health Occupation Education

- Health Care Science (10)
- Health Occupations Education I (11)
- Health Occupations Education II (12)

Guidance (included as part of the above sequences)

- Career Investigation (7-9)
- VEH Career Investigation (7-12)

Special Needs Populations (included as part of the above sequences)

- Basic Vocational Education (9-12)

**Research and Development of Performance Standards for
Selected Vocational Education Programs
Summary of Second Advisory Committee Meeting - February 12, 1991**

The second advisory committee meeting was held on Tuesday, February 12, from 10:00 a.m. to 2:00 p.m. at the Thompson Conference Center on the campus of the University of Texas at Austin. Twenty-two invitations were sent, and there were sixteen participants at the meeting. Attachment #1 identifies the members present.

Dr. Barbara Selke-Kern welcomed the committee members. She reminded them that their input was very important since the Carl Perkins Vocational and Applied Technology Education Act was signed by the President and became law on September 25, 1990. Dr. Selke-Kern made two announcements. Eleanor Mikulin was selected National Vocational Special Needs Administrator of the Year. The committee members congratulated Eleanor for receiving this special award, stating that it was an honor very well deserved. The second announcement recognized the retirement of Sandra Marvel, from Wichita Falls I.S.D., after 38 years in the field of vocational education. The committee wished her well, saying they appreciate having someone with her knowledge and valuable experience serving on the advisory committee. Dr. Selke-Kern concluded her introductory remarks by briefly outlining the agenda for this second advisory meeting. She stated that Richard Bouton, the Project Manager, would discuss the status of the project; the major issues concerning performance standards; and review any changes that had taken place since the last meeting of the advisory committee.

Richard Bouton briefed the committee members on recent activities relating to the passage of the Carl Perkins Act. He mentioned that the Texas State School Board selected the State Committee of Practitioners as defined in Section 115 of the Carl Perkins Act, and he has the names of the twenty members of the State Committee of Practitioners for the information of the advisory committee. The responsibility of the advisory committee will not conflict with the tasks of the Committee of Practitioners, which is to review, comment, and modify the performance standards developed by the advisory committee. Richard Bouton has been meeting monthly with the program directors of the Texas Education Agency.

The revised list of courses suggested for the project was reviewed. Richard Bouton opened the discussion, reviewing the comments made at the December 5, 1990, meeting in Dallas. At this meeting, representatives from the U.S. Department of Education met with state agencies to share information on the new Carl Perkins legislation with a focus on developing state plans. Key words from the Dallas meeting included quality, accountability, and flexibility. The state can define "vocational program" broadly or specifically. The meeting of performance standards will be required of everyone, not just those that have Carl Perkins money.

A discussion ensued concerning the issue of "unified sequence of courses." James Cogdell felt that Trade and Industrial Education does not have a unified sequence of courses. Will Reese felt that there was a sequence of semesters within cosmetology. Eleanor Mikulin felt that a unified sequence does not mean you have to have a sequence within the course, but that there is a sequence of building leading to higher-level courses. There can be multiple entry points and exit points within the sequence of courses. George Matott felt that students fall through the cracks in the system. He suggested that more guidance and career counseling is needed to avoid this problem and a statistical process to measure how the students are going through the system.

The question of whether a survey should be sent to district level administrators regarding input on performance standards was discussed. Neil Ballard, Leonard Harcrow, and Eleanor Mikulin did not support sending a survey to local administrators. A suggestion was made to send a draft of the standards for review instead of a survey. Sam Zigrossi did not support a survey. He felt that employers, not educators, should determine standards. Educators should refine and implement the program. Barbara Terrell agreed, saying that competencies and standards should come from business and industry, not teachers.

Richard Bouton asked the committee members if they would like to have information concerning the approach other states have taken in designing and implementing performance standards. Sam Zigrossi stressed the importance of researching other countries, especially Japan, Sweden, and Germany and mentioned Bob Glover as an important contact for international vocational education information. George Matott suggested studying apprenticeships in other countries and setting our standards higher than our competitors. Will Reese agreed with the

need for international research. He suggested contacting Sonja Hernandez, Director of Education Policy in the Governor's Office. Jerry Wircenski suggested researching Australia's vocational education program.

In January 1991, letters were sent to all states asking for the status of development of their vocational performance standards in accordance with the new Carl Perkins legislation. Richard Bouton discussed the responses to the survey, which is still ongoing. The responses seem to fall into five categories:

1. Have standards "on-shelf"
2. Have standards as a "monitoring instrument, a process document"
3. Have standards as "essential elements"

(In the above examples the states are revising their standards to comply with the new Carl Perkins legislation.)

4. Beginning to develop standards
5. Have adopted performance standards and measures

Richard Bouton introduced some of the major issues concerning performance standards for the purpose of obtaining input from the advisory committee members. There was general discussion on goals versus standards. Another issue pertained to standards for programs versus student performance standards. Will Reese felt that the student's performance before entering vocational education is important as a benchmark to later gains in performance. Texas Assessment of Academic Skills (TAAS) is not a measure because students take it for the first time in the fall of their junior year and do not retake it unless they fail the first time. George Mattot encouraged starting at a broad base and working toward specific. Sandra Marvel felt that both pre- and post-standardized testing would be ideal.

Another topic discussed was the criteria for creating good performance standards. Richard Bouton stimulated discussion by sharing with the committee members what Gareth Hoachlander at the National Center for Research in Vocational Education identified as important criteria for good performance measures and standards:

1. Clearly and precisely defined
2. Quantifiable

3. Easy and inexpensive to measure
4. Timely
5. Consistent across programs and institutions as well as over time

George Mattot suggested adding results oriented to the five criteria developed by Hoachlander.

The issue of how many performance standards for each program area was discussed. Neil Ballard suggested seeing how many surfaced after you do it. George Mattot said that the performance measure should not be dismissed just because the data is not collected. Eleanor Mikulin mentioned the statutory restrictions for Texas Education Agency to gather data.

Will Reese suggested reviewing the standards of JTPA in order to be consistent and build on what has already been developed. Sam Zigrossi agreed that consistency is important and that the JTPA standards were good. Richard Bouton told the committee members that he will ask Bill Demestihis of the Austin/Travis County Private Industry Council, Inc., to participate in the advisory groups. Sam Zigrossi felt that the committee members have three goals to accomplish: (1) comply with the Carl Perkins law, (2) make vocational education more effective, and (3) link vocational education programs with other programs like JTPA.

Another issue that was addressed was how high the standards should be set. The question of an attainment of a percentage, 70%, 80%, or 90%, was open for discussion. Jerry Wircenski felt that establishing a percentage would be putting the cart before the horse. He said that the committee should put together a wish list of performance standards. They should determine what data is already available and what needs to be collected. The criteria should be weighted. The percentages will vary with each standard. Neil Ballard suggested finding out what the norms are now. What are the norms for the Texas Assessment of Academic Skills (TAAS) and the Texas Educational Assessment of Minimum Skills (TEAMS)? George Mattot said that the focus should be on the ideal, 100%, and then determine how to achieve that goal. Sam Zigrossi stated that a benchmark is needed. He felt that the national norms are mediocrity; therefore, the standards need to be higher than the national norms. James Cogdell thought that the national norms might be realistic. He warned against setting the standards too high. If they did not achieve the standard,

would there be a penalty? He felt there was a difference between standard and goal. Sam Zigrossi said a new paradigm is needed. He suggested having an ultimate standard plus a set of benchmark standards. The benchmark standards would be increased over time to reach the ultimate standard. Jerry Wircenski questioned why the program placement is so low. He said documentation should be included explaining why program placement is so low.

Richard Bouton asked for comments on the Section 115 requirement to include incentives or adjustments designed to encourage service to targeted groups or special populations. Eleanor Mikulin felt that "adjustments" may be the provision of support services for special populations to reach standards. Eleanor Mikulin and Barbara Terrell agreed that "incentives" and "adjustments" generally are addressed at the local level.

The last question discussed was whether the report should reflect that standards as givens. Sandra Marvel felt that it is not necessary to address the standards that are already a part of the statewide requirements such as the three-year requirements of high school English.

Richard Bouton thanked the advisory committee members for their input. He told them that a draft of the research report would be sent to them. The advisory committee meeting adjourned at 2:00 p.m.

**Advisory Committee Members Present at Second Advisory Meeting
February 12, 1991**

Attachment # 1

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Appendix F

Core Performance Standards (Draft) with Illustrative Examples

Area 1: Learning and competency gains -- Achievement of basic and advanced academic skills

Standard 1: At the end of 12th grade, students who completed at least 5 credits of a coherent sequence of vocational education courses that included, where applicable, at least one occupationally specific course, passed TAAS at rates that were comparable to or better than were attained during the previous year unless or until a level of 90 percent is attained.

Note that this standard compares academic achievement of this year's 12th grade students who have completed a sequence of vocational education courses with academic achievements of last year's 12th grade students who had completed a sequence of vocational education courses.

Examples: In 1990-91, 85% of 12th grade students who had completed 5 credits of a sequence of Trade and Industrial courses in District "A" had passing scores on the TAAS. During the previous year, 81.6% of 12th grade students who had completed 5 credits of a sequence of T&I courses passed TAAS. Therefore, the T&I program in District "A" met this standard for learning and competency gains. In District "B," 90.1% of 12th grade students who had completed 5 credits of a sequence of Marketing Education courses passed the TAAS. Therefore, District B's ME program met the standard.

(Note: It is recommended that this standard be the subject of longitudinal research on alternatives for measuring academic learning and competency gains.)

Standard 2: At least 80 percent of students who this year were enrolled in two semesters of a coherent sequence of vocational education courses obtained at least 5.5 state-approved elective and/or required units of credit toward their graduation during the year.

Example: During 1990-91, 92% of students in District "A" who were enrolled in two semesters of Office Education courses obtained at least 5.5 units of credit toward their graduation. Therefore, District "A"'s Office Education program met this standard for learning and competency gains.

Area 2a: Competency attainment - vocational education program completion

Standard 3: At least 80 percent of students who enrolled in an occupationally specific vocational education course completed their vocational education program by the end of 12th grade. Program completion is defined as successful completion of a coherent sequence of courses for the specific vocational program or a demonstration of competency in the vocation.

Example: In District "A," 83% of students who enrolled in occupationally specific T&I courses completed their T&I program by the end of their senior year. Therefore, the T&I program met this standard for program completion.

Area 2b: Job or work skill attainment or enhancement

Standard 4: At least 80 percent of 12th grade students who had completed at least 5 credits of a coherent sequence of vocational education courses that included, where applicable, at least one occupationally specific course:

- a) obtained a certification of competency by an accepted licensing or certification agency; OR
- b) successfully completed a validated test of occupational competency. The test shall be one created by an organization independent of the school district and accepted as good measure of competency for the occupation. The test may be a paper and pencil test, a computerized simulation test, or a hands-on demonstration of occupational skills; OR
- c) demonstrated completion and competency in the essential elements for the student's coherent vocational education course sequence.

Examples: In the Cosmetology program in District "A," 83% of students who had completed 5 credits of a coherent sequence received their cosmetology license upon graduation. Therefore, the cosmetology program met this standard for occupational competency attainment. Of those students who had completed 5 credits of a sequence of courses in T&I concentrating on small engine repair, 89% passed a paper and pencil competency test purchased by the district from the textbook publisher that had developed and validated the test. Of those T&I

students not specializing in small engine repair, 90% demonstrated completion and competency in essential elements. Therefore, District "A"'s T&I program met this standard.

Area 2c: Retention in and completion of secondary school

Standard 5: The retention rate for students who this year were enrolled in two semesters of a coherent sequence of vocational education courses was comparable to or better than the retention rate for the district.

Example: The dropout rate for students in District "A" during 1990-91 was 4.5%. Because the dropout rate for students who enrolled in two semesters of Occupational Home Economics courses was only 4%, the OHE program met this standard for retention in secondary school.

Standard 6: Among 12th grade students who had completed at least 5 credits of a coherent sequence of vocational education courses that included, where applicable, at least one occupationally specific course, the percentage who obtained high school diplomas was comparable to or better than the percentage of all 12th grade students in the district who obtained their high school diplomas.

Example: In District "A," 93.1% of students who entered 12th grade in September of 1990 obtained their high school diplomas before school started again in the fall of 1991. Of 12th grade students who had completed at least 5 credits of a coherent sequence of Agriculture and Agribusiness courses, 95% obtained their high school diplomas before school started again in the fall of 1991. Therefore, District "A"'s A&A program met this standard for completion of secondary school.

Area 2d: Placement into additional training, education, military service, or employment

Standard 7: At the one-year follow-up, 75 percent of students who earned a high school diploma after having completed at least 5 credits of a coherent sequence of vocational education courses that included, where applicable, at least one occupationally specific courses were:

- a) enrolled at a postsecondary educational institution; OR
- b) enrolled in a registered apprenticeship program; OR
- c) in other training related to their vocational training; OR
- d) in military service; OR
- e) employed in a paid or unpaid job related to their vocational training.

Example: District "A"'s one-year follow-up of students who had earned their high school diplomas in 1990 after having completed at least 5 credits of a coherent sequence of vocational education courses showed that 25% of the students were enrolled at a postsecondary institution, 12% were in military service, and 47% were employed in a paid or unpaid job related to their vocational training for a total of 84% positive placements. District "A" therefore met this standard for postsecondary placement.

Core Performance Standards
Draft for Feasibility Assessment
October 25, 1991

Area 3a: **Incentives and adjustments** -- to encourage service to targeted groups or special populations

Standard 8: Members of special populations who received special or supplemental services because they were enrolled in vocational education courses this year earned at least 5.5 credits toward their graduation and/or obtained high school diplomas at rates that were greater than rates achieved by comparable groups of students who were not enrolled in vocational education courses and therefore not receiving special or supplemental services.

Example. In District "A," 96 students were members of special populations. Of these students, approximately 67% received special or supplemental services because they were enrolled in vocational education courses. Of those 12th grade students who received special services, 90% earned their high school diploma compared with 84% of the entire group of students who were members of special populations. Of all 96 students who were members of special populations, 75% earned at least 5.5 credits toward their graduation. By comparison, 82% of students who received special services earned 5.5 credits toward graduation. District "A" therefore met this standard for having provided services to targeted or special populations.

Standard 9: Of students who are members of special populations the percentages enrolled in vocational education courses were comparable to the percentages of those groups of students within the school district.

Example: In District "A," 14% of students are in the designated special populations. Because 15% of students enrolled in vocational education courses are students who are handicapped, disadvantaged, LEP, or other special needs students as defined in the Perkins Act, District "A" met this standard indicative of incentives and adjustments to encourage service to targeted groups and special populations.

Core Performance Standards
Draft for Feasibility Assessment
October 25, 1991

Area 3b: Incentives and adjustments -- for each student, consistent with the student's individualized education plan

Standard 10: Adjustments may be made in standards 1 through 7 for students with Individualized Education Plan (IEP) who are enrolled in vocational education courses.

Example: In District "A," there are 180 students with IEP who were enrolled in vocational education courses during 1990-1991. Of these 180, there were 24 whose IEP specified that the student would complete 4 courses. For these 24 students, Standard 2 is adjusted to substitute "4 credits" for the 5.5 credits of elective and/or required units of credit toward graduation. Therefore, District "A" met the standard for having made adjustments consistent with the student's Individualized Education Plan.

Area 4: Procedures for using existing resources and methods developed in other programs receiving Federal assistance

Standard 11: In addition to use of existing resources as specified in the district's application for Perkins funds and supplemental services for members of special populations, the district shall obtain and review the regional (or statewide) occupational outlook compiled as part of the quality workforce program in the state of Texas and make arrangements to ensure that the occupationally specific courses being offered provide training relevant to prevailing occupational choices.

Appendix G

Abstract of Work Plan for Contract Year 1991-1992

PROJECT DESCRIPTION ABSTRACT 1991-92

Objectives

This project will have two main objectives. This first will be to continue the development of performance standards for sequences of vocational courses. The second will be to conduct a feasibility study of the core performance standards to ensure that those standards are clearly defined, cost efficient, manageable in number, relatively easy to measure, timely, goal oriented, attainable yet credible, and focused on product rather than process.

Procedures

A general advisory committee will review and approve the conduct of both major portions of this project. This project will examine courses other than those considered during the 1990-91 project and determine for which courses, if any, additional performance standards need to be developed. A feasibility study will be conducted to determine whether the core standards developed during the 1990-91 project are realistic, and adjustments will be made, if necessary; this study will greatly enhance the process of adopting and implementing the standards. Course-specific performance standards will assist local administrators in the evaluation of their programs. All standards will be clearly defined, cost efficient, manageable in number, relatively easy to measure, timely, goal oriented, attainable yet credible, and focused on product rather than process.

Product(s) to Be Delivered

Three final products will be developed: (1) course-specific performance standards for those vocational courses for which they are needed; (2) a feasibility study of the core performance standards developed during the 1990-91 school year; and (3) a data-gathering instrument to be used in the feasibility study. The instrument could be used by vocational administrators in local school districts in data collection for their districts' evaluation required under the performance standards. One (1) camera-ready copy and 100 additional copies of the performance standards, the data-gathering instrument, and the results of the feasibility study will be produced.

Quality Control of Product(s)

Regular and frequent formative evaluations will be conducted during the development of the performance standards and the feasibility study. Advisory and validation committees—composed of individuals with experience and expertise appropriate to this specific project—will be formed. A general advisory committee and numerous course-specific advisory groups will provide ample opportunity for input, criticism, and evaluation. This process will also improve acceptance of the final product by teachers and administrators. Regular and comprehensive in-house evaluation will take place during the course of the project using the expertise of EIMC. Bimonthly reports with copies of the products being developed, quarterly administrative reports, and a comprehensive final report will be submitted to the Director of Vocational Education Programs at the Texas Education Agency.